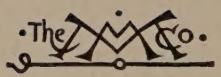
Mabel Weston
March 1926.

THE ELEMENTARY SCHOOL CURRICULUM



THE MACMILLAN COMPANY
NEW YORK · BOSTON · CHICAGO · DALLAS
ATLANTA · SAN FRANCISCO

MACMILLAN & CO., LIMITED
LONDON · BOMBAY · CALCUTTA
MELBOURNE

THE MACMILLAN CO. OF CANADA, LTD.
TORONTO

THE ELEMENTARY SCHOOL CURRICULUM

BY

FREDERICK GORDON BONSER
PROFESSOR OF EDUCATION, TEACHERS COLLEGE, COLUMBIA UNIVERSITY

New York
THE MACMILLAN COMPANY
1923

All rights reserved

COPYRIGHT, 1920,
BY THE MACMILLAN COMPANY.

Set up and electrotyped. Published August, 1920.

FOREWORD

THIS book is offered as a practical help to teachers, supervisors, principals, and superintendents in the improvement of the elementary school curriculum. The extended discussion of questions concerning the elimination of undesirable material and the introduction of much desirable new material has created a genuine need for a thoroughgoing, constructive revision of the curriculum. Such a revision requires the development of fundamental principles of selection, related vitally on the one hand to the aims and activities of life, and on the other to the nature and needs of children. The first eight chapters of this book are devoted to the development of such principles. The second part of the book makes application of these principles in offering a suggestive curriculum which may be adapted to the needs of elementary schools, wherever they may be.

While the content of the curriculum is the chief concern of this discussion, there are necessarily some references to method. Method is inherently related to the purpose and content of all experiences. To that degree in which purpose and content vitally affect method and are in turn affected by it, method is considered. Because of its importance and the relative recency of its formal development, the project method receives more than passing attention.

It is possible to organize a curriculum wholly upon the basis of *activities of life* in which children actually engage rather than in terms of *subjects* in which, as such, few are engaged. It is believed that this is ideally desirable. But the break between present practice and organization around projects would be so great that such an attempt, if made with any degree of haste, would not fully succeed in most public schools. The whole organization of the schools, and the experience and training of teachers, supervisors, and administrators are so thoroughly established for work on a subject basis that change must be gradual rather than abrupt. The organization offered by this book is therefore an intermediate step in the interest of progress from the present wasteful and unsatisfactory organization toward the more complete organization and method ideally desirable. The presentation here offered is a mode of natural transition. Beginnings in the use of this plan may be made with single units. New parts may be increasingly substituted for units in the older curriculum as ability and confidence in the use of the new develop. The organization offers means for taking the immediate next steps in revision and also for the more complete socializing of the entire curriculum.

The suggestions of content for the several subject-matter fields are too extensive to be fully covered in any of the respective grades. A wealth of material is offered in order that there may be opportunity for the selection of projects appropriate to schools varying widely in resources and environment.

The general point of view is that of a thoroughgoing

pragmatic pedagogy. The book attempts to present aims that are definite and methods that are direct, leading to results that are appreciable and measurable. The relationships of purpose, content, and method continuously evident place a high premium upon effort, and immediate, individual, coöperative activity but always under the guidance of social ideals.

The author recognizes his indebtedness to his colleagues in Teachers College, Columbia University, for their contributions which have helped to develop his thought. He gratefully expresses his feeling of obligation to them and to other teachers by whose work he has been influenced. In his discussion of the project method he has followed the formulation of Professor William H. Kilpatrick.

A word of thanks is due to the Bureau of Publications of Teachers College for permission to make adaptations of material in the Speyer School Curriculum, and to the teachers and supervisors in Speyer School who shared in the making of its curriculum: also to Miss Blanche E. Campbell and the State Normal School at Macomb, Illinois, for permission to use material prepared by Miss Campbell for the Normal School Quarterly, Issue No. 3. Appreciation is expressed to Mrs. Lois Coffey Mossman, Instructor in Elementary Education, Teachers College, for much help in the detailed development of the book.

FREDERICK G. BONSER

TEACHERS COLLEGE
COLUMBIA UNIVERSITY
April, 1920

TABLE OF CONTENTS

PAGE

FOREWORD v

CHAPTER I

THE CURRICULUM AS RELATED TO THE AIMS OF EDUCATION 1
The purpose and content of the curriculum . . . 1
The source of the curriculum 3
Who should make the curriculum 5
The curriculum as a reflection of life purposes . . 8
Education as adapting conduct to the needs of life . . 9
Educational value means value for making desirable differences in conduct 10
The factors of conduct in terms of common needs and satisfactions 12
Educational needs revealed by the emergencies of war . 15
Considered educationally needs have both a present and a future reference 17
Two common errors in curricula 20
The curriculum should provide for all phases of behavior — acting, thinking, and feeling 22
The curriculum should reflect all the aims of life . . 24

CHAPTER II

GENERAL MENTAL CONTENT WHICH DETERMINES OR CONTROLS CONDUCT 26
The three general factors of experience subject to direction 26
Knowledge or information 26
Habits and attitudes 28

PAGE

Appreciations 31
The three foregoing factors in relationship to educational objectives 35
The activities of mental life as commonly defined . . 36
Native impulses and tendencies to behavior 38
Native tendencies and the making of the curriculum . 40

CHAPTER III

The General Aims of Life in Terms of Purposeful Activities 43
The four large fields of purposeful activity . . . 43
Activities for maintaining life and health . . . 44
Foods 44
Clothing 45
Shelter 46
Care and exercise of the body 47
Practical activities and the means of their pursuit . . 48
Civic and other regulative activities 50
Recreational activities — the use of leisure . . . 53
Participation in life activities the means of realizing life purposes 57
Life purposes and the tool subjects 58
The curriculum and vocational guidance . . . 59

CHAPTER IV

The Periods of Education in Terms of Life Purposes 61
The three general periods of education — elementary, secondary, higher 61
The elementary school 61
The secondary school 64
The junior high school 64
The senior high school 67
The higher schools 68
The curriculum content of all schools 69
The curriculum problem of the elementary school . . 70

CHAPTER V

PAGE

THE EMERGENCE OF THE CURRICULUM FROM LIFE ACTIVITIES 72
The activities in which people engage 72
The school's function in promoting these activities . . 74
The tools used in making these activities effective . . 75
The curriculum emerges as a series of purposeful activities and the means for providing them 76
Purposeful activities and the school subjects 78
The curriculum and the school subjects 80
The activities of the curriculum represent present needs; the subjects of study, the social inheritance . . 80
Neglect of life objectives avoided by using school subjects as checks 83
Activities often require aid from several subjects . . 83
Correlation 85
The making of the curriculum 86
The curriculum can never be finished but is always in the process of making 88

CHAPTER VI

THE PROJECT METHOD AND THE CURRICULUM . . . 89
What the project method is 89
The method of selecting and arranging projects . . 90
The selection of projects must be on the basis of relative values 94
Purposes immediate to the children contribute to more extensive purposes of the teacher 97
The problem of sequence in the curriculum . . . 99
School discipline and education by purposeful activities . 102
The project method is opposed to departmental teaching in the elementary school 103
Practical considerations in changing from present forms of curricula 105

CHAPTER VII

PAGE

ILLUSTRATIONS OF TWO TYPES OF PROJECT ORGANIZATION 107
The plan as fully organized on the project basis . . 107
Conventional subject matter and the project organization 112
Conditions necessary for a full project organization . 112
Illustrations of an intermediate stage in project organization 113
The spirit and qualities necessary for progress . . 131

CHAPTER VIII

HOW THE AIMS OF LIFE ARE PROMOTED BY THE RESPECTIVE KINDS OF SUBJECT MATTER 133
As organized, subjects of study are very highly specialized 133
Combining subject matter related to common kinds of projects is desirable 134
A common error in organizing subjects in "correlation" . 136
The respective subjects as related to the larger life purposes 138
Nature study 139
Industrial arts 141
Geography 142
Arithmetic 142
History 143
English 144
Physical education 145
Music 145
Fine arts 146
Organizing school activities to include subject matter . 147
A change in organization too radical for practical use is unwise 149
A summary of general principles for curriculum making . 150

CHAPTER IX

THE PRACTICAL ARTS 155
Inclusive meaning of the term for elementary schools . 155

PAGE

Purposes served by the study of the practical arts . . 156
The use of products 157
Economic values 157
Hygienic values 159
Artistic or æsthetic values 160
Our social relationship to producers 161
Intellectual appreciation of practical activities . . 164
The values attributed to practical arts subjects as subjects 165
Helpful teaching material in the practical arts . . 167
Projects in practical arts 168
Projects in shelter — houses and furnishings. Grades I to VI 171
Projects in clothing and clothing materials. Grades I to VI 174
Projects in foods and food materials. Grades I to VI 182
Projects in utensils. Grades I to VI 191
Projects in records. Grades I to VI 195
Projects in tools and machines. Grades I to VI . 199
Principles for selection and organization in practical arts 207

CHAPTER X

Geography 209
The content of geography 209
The relationship of nature study and geography . . 211
The uses of geography 213
The sequence of content in geography 215
Projects in the principles of geography as such . . 217
Projects requiring information of geography — Grades I to VI 219
The larger field of geography 229
Principles for selection and organization of geography 230
Principles for selection and organization of nature study 232

CHAPTER XI

Arithmetic 234
The uses of arithmetic in promoting experience . . 234

PAGE

The development of arithmetic as a tool 236
Sequence in the principles and processes of arithmetic . 240
Projects requiring the use of arithmetic — Grades I to VI 241
Principles for selection and organization in arithmetic . 252

CHAPTER XII

HISTORY 255
The purposes served by the study of history . . . 255
The extent of the field of history 260
The method of approach to history content and of its use 267
Projects requiring the use of history and social coöperation — Grades I to VI 271
Principles for selection and organization of history . . 298

CHAPTER XIII

ENGLISH 301
Purposes served by English 301
Projects in which the use of English is required . . 303
The mechanics or technique of English 308
Sequence in English 311
Work in English by grades — Grades I to VI . . . 313
Principles for selection and organization of English . 330

CHAPTER XIV

FINE ARTS 337
What is meant by fine arts 337
Drawing and coloring as distinguished from design . . 338
Freehand and mechanical drawing 340
Drawing, painting, and sculpture as fine arts . . . 341
The purposes served by fine art 343
The beauty of nature as distinguished from fine art . 345

PAGE

The purpose in art teaching determines the content and method 345
Projects requiring design 349
Projects in the use of paintings and sculpture . . 351
Sources of pictures 353
Principles for selection and organization of fine arts . 354

CHAPTER XV

Music 357
Purposes served by music 357
The thought and feeling content of music . . . 359
Musical composition by children 364
The sequence in music 365
Projects in music 368
Principles for selection and organization in music . . 371

CHAPTER XVI

Physical Education and Hygiene 374
Purposes of health education 374
Health knowledge 375
Health habits 377
Physical recreation interests and habits 378
Projects in recreation and hygiene — Grades I to VI . 382
Principles for selection and organization of physical education 394

CHAPTER XVII

Citizenship and the Curriculum 396
The meaning of citizenship in America 396
How growth in citizenship is secured 399
Projects including elements of citizenship . . . 401
A summary of the qualities of citizenship . . . 404
Qualities of citizenship inherent in the whole curriculum 418
Principles for guidance in teaching citizenship . . 421

CHAPTER XVIII

PAGE

How to Use this Book in Improving Curricula . . 423
The organization of material here offered . . . 423
The continuous process of improving the curriculum . 424
A plan of organization for revising curricula . . . 425
How to use this book in the general revision of a curriculum 427
Single units of work should be the basis of progress . 429
Questions and topics suggestive of possible projects . 430
How to direct the interests of children toward desirable projects 430
For city and village schools 432
For country schools 444
Topics suggested for work in citizenship and Americanization 453
Interest in environment as the source of projects . . 460

Index 461

THE ELEMENTARY SCHOOL CURRICULUM

THE ELEMENTARY SCHOOL CURRICULUM

CHAPTER I

THE CURRICULUM AS RELATED TO THE AIMS OF EDUCATION

The Purpose and Content of the Curriculum. — The curriculum represents the experiences in which pupils are expected to engage in school, and the general order of sequence in which these experiences are to come. Very generally, the curriculum has consisted of the material found valuable in carrying on life activities in the best way, but it has been presented apart or separate from the uses which it serves in these life pursuits. There has been an assumption that the activity chiefly called upon was learning the material represented by the curriculum so that it could be expressed in oral or written form. The school's problems were those of developing a small number of skills in interpreting symbols and expressing meanings by their use — reading, spelling, writing, number, drawing, music; memorizing the content of some text books as in geography, history, and science; and of conducting some manual activity to develop dexterity and to aid in the understanding of some ideas and principles, as

by work in laboratory, shop, and garden. Many of these elements, processes, and principles used in carrying on the real activities of life were included in the curriculum, but *without relationship to the activities themselves.* It was assumed that if this content were learned in an orderly sequence of steps in school the pupil himself would see the relationship of its respective parts to definite life situations and use these as needs called for them. But the results of a curriculum which so completely isolated the content and method of school experiences from out-of-school life have shown that this assumption is not adequately valid. Few definite connections or bonds in mental life between the material and its uses were made or developed.

Both the development of principles in psychology and the results of many and extended plans of experimental practice lead to the conclusion that a broader interpretation of the curriculum is necessary. If the purpose of the curriculum is to furnish aid in the selection and promotion of experiences of the largest life values, then the curriculum must include, not only the essential facts, principles, and processes found useful in the daily conduct of life, but also the activities required. By including the situations in which the helps of information or methods of procedure are of use in meeting them in the best way, the connection which is necessary for success outside of school is made in school. The number facts are then learned in relationship to the uses we make of them in pur-

chasing or selling, measurement, making investments, saving, and so on. The principles of guidance in language are developed as their needs are made apparent in our attempts to speak and write effectively. The facts of history are considered in relationship to present-day problems which they help to solve or conditions which they help to interpret. The finest thoughts and feelings of the race as found in literature, art, music, and play are used in relationship to experiences of our own which these forms of expression help to interpret and enrich. Throughout the whole range of present-day problems and interests the curriculum should include both the kinds of situations calling for subject matter in the usual sense of that term and the subject matter which the respective situations require. The curriculum then becomes the projects inclusive of the essentials of race experience and the helps necessary to engage in these projects with success and efficiency.

The Source of the Curriculum. — The curriculum has, then, a twofold source: the experiences of present-day life in which it is necessary or desirable to engage; and the results of the experiences of the race in carrying on these activities. Whatever the race has learned that would enable us to meet our needs and solve our problems in a better way by our knowing about it, should be placed at our disposal by the curriculum. The subject matter usually outlined in curricula and given in more elaborate form in text books and

reference books represents summaries of the results found helpful in various forms of race experience. Mathematics courses and books summarize the facts, principles, and processes found most useful in solving the measurement problems of life; language and grammar courses and texts summarize the results of the best usage in expressing thoughts in words; reading, writing, and drawing materials bring to us the symbols developed by the race for communicating thoughts from one to another and for making permanent records of our thinking; literature, art, and music as offered in outlines and books are illustrations of what the race has found most satisfying in the expression of thought and feeling by the use of words, form and color, and tones; the whole curriculum has represented selections of results from race experiences found valuable in some way.

There may be material in the usual selections as found in curricula which was once of use in solving the life problems of our forbears but which is no longer of value. There may also be material useful in the experiences of those who have gone before which would be helpful to us but which we have failed to include. In any case, however, the sole source of curriculum subject matter is in the results of the experiences of the race up to this present moment. Since race experience is so vast, it is at once evident that selection on the basis of relative values for our own use is of very great importance.

The source of the other part or aspect of the curriculum lies in the desirable, purposeful activities of the present. Our purposes, problems, and needs as they arise in daily life, including, of course, our purposing and planning of future activities, constitute the source of our interests and our acts, whatever their form. It is only in terms of helping these activities along that we can attach any value to subject matter. That which promotes our purposes has value. That which does not help us along in any way with enterprises in which we are engaged makes no appeal to us, and if forced upon us annoys us and tends to develop in us an attitude of distaste or hostility. Present-day life with all of its desirable appeals and problems is thus not only the source from which the experiences in education are to be derived, but also the basis for the selection and evaluation of the subject-matter portion of the curriculum. As there is much difference in the relative desirability of various possible life experiences, selection of activities for the curriculum becomes a matter of importance even more primary than the selection of subject matter. Relatively, the selection of subject matter is secondary, since it is determined by the needs of the purposeful activities which it promotes.

Who Should Make the Curriculum. — Since the curriculum as a sequence of purposeful activities together with the subject matter necessary to carry forward these activities in the best way must continuously represent present life needs, it cannot be

regarded as any more completed or fixed than is human life itself. In the main, the large life purposes which the curriculum represents and much of the subject matter helpful in realizing these purposes remain unchanged from year to year. These larger purposes and their contributory subject matter may therefore be regarded as relatively permanent. But discoveries and inventions in many fields are increasing our knowledge and modifying our ways of living. New ways of doing things and new human relationships are ever being developed. New interpretations and new expressions of the thoughts and feelings of man are challenging our attention from day to day. The details of present-day life are ever changing, and in many ways. Environing conditions of many kinds also vary greatly from community to community. In climate, natural resources, occupations, means of travel and transportation, nationality of populations, local customs, and personal temperament lie sources of differences which have a very important bearing upon the curriculum problem. From all of these matters of life changes and environing differences there arises the necessity of a flexibility in the activities of the curriculum which permits an adjustment in every school to the particular needs of the time and location. As representing the large, main life purposes, we may say that the curriculum is relatively fixed and permanent; as representing the *detailed approaches* to these larger purposes through the immediate interests and activities of

each community, we may say it is ever in a state of change.

It will now be evident that a body of educators, expert in the interpretation of life purposes and values and thoroughly acquainted with the various fields of human experience, may make the broader outlines of the curriculum in both phases — the larger types of purposeful activities in which people are engaged and the most helpful subject matter for engaging successfully in these activities. It will also be equally evident that no one but the teachers and other local educational supervisors can select the particular enterprises which engage the interests of any given community itself to such a degree as to make these serve as the basis for detailed school projects. The immediate interests and problems of a given time and a given place are the most potent sources of questions which claim the attention of both children and adults. These are the natural interests from which to select school projects which will lead on to the purposes and values represented by the more nearly permanent and fixed elements of the curriculum. In order to answer the questions involved in these immediate interests much is required of the race experience which is made available by text books and other summarized reference sources.

The making of the curriculum is therefore seen to be a coöperative enterprise, enlisting the services of the most expert educational leaders for permanent purposes

and values; of supervisors and teachers for that selection and development of immediate purposes and interests which will lead to the use of the socialized values represented by the permanent elements of race experience; and of the children themselves through their expressions of interest and activity which need the help of the school in order that they may be satisfied, enriched, and kept ever growing toward higher levels and values. In the continuous reconstruction necessary to make the experiences of the children lead their own purposes and activities into an increasing usage of permanent, social values, the teachers themselves must, by the very nature of the situation, be constantly engaged in the process of curriculum making. There is no escaping this conclusion if the work of the school is to be responsive both to the needs of current social life and of the expressed purposes of the children.

The Curriculum as a Reflection of Life Purposes. — The school is the conscious means used by society to give children rich and varied experiences in wholesome living in the most economical way. Its aim is to bring into the experiences of children the materials and the methods found by the race most effective in adapting conduct to the most wholesome purposes of worthy living. Since children are living and participating in various activities at all times, the school is a supplementary part of the life which it attempts to enrich. To fulfill its purpose, the school must therefore reflect the interests and purposes of social life which it desires to pro-

mote, and provide the material from the experiences of the past which is required by these very interests and purposes for their fuller satisfaction. Whatever society sets up as the ends for the conduct of its members thus becomes the standard of reference by which to determine the content of the school work in so far as these ends cannot be just as well attained without the help of the school. The relatively permanent elements of the curriculum can therefore not be determined except by considering them in relationship to the life or educational aims which the school is expected to promote. The curriculum will be required to emphasize that which the aim of education emphasizes and to subordinate that which is subordinate in life. The question of relative values is just as important in the curriculum as it is in life itself. When social ideals change or when methods of life change through inventions, discoveries, or new interpretations, then the curriculum should correspondingly change to make it a true reflection of ideals and methods. Every item of the curriculum, be it large or small, can receive its adequate evaluation only by reference to fundamental life purposes.

Education as Adapting Conduct to the Needs of Life. — Life is a succession of activities in meeting needs. From earliest childhood to old age there is an urge within us that expresses itself in the form of needs and attempts to satisfy these needs. These needs are of many kinds. Most necessary to life itself are those

for food, clothing, and shelter, — the material needs. But there are also desires just as urgent for activity which gives its own satisfaction — plays, games, and sports. There is universally a strong desire for communication. In every one there is some degree of interest in expressing and appreciating feelings of beauty in words, in music, in bodily motion, and in form and color. In each there is some desire to understand the operation of natural forces, and the nature, purpose, history, and destiny of human life. Among all there is a common need for coöperating with others as a means of producing and enjoying satisfactions of all kinds. By reason of the age-long experience of the race it is possible to help one to much higher measures of success in meeting these various needs than he could accomplish if left to himself. It is just because of this need for help and because much help is available that we have a problem of education and a means of solving it. It is the whole purpose and process of education to adapt conduct to the most wholesome and complete satisfaction of these needs that life itself may be most complete and wholesome.

Educational Value Means Value for Making Desirable Differences in Conduct. — Whatever makes a difference in conduct which helps to meet any real need has educational value in just the degree that it makes such a difference. The values of the processes of arithmetic, of penmanship, and of the mechanics of reading can be measured only in terms of the desirable

differences they make in carrying on the activities in life necessary to its well-being and satisfaction. They have no values in themselves. The facts and principles of nature study, science, and geography are also of value only in the degree in which we use them in furthering purposive life activities. The worth of history study can be determined only by the extent to which it makes desirable differences in our thinking, feeling, and acting. The values in literature, music, and other art forms of expression are measured by the increase of satisfaction which such experiences furnish and by the differences in thought and action which they produce. Aside from the differences in conduct made by experiences of any kind there is no basis for judging their worth.

As it may be true that every experience, no matter what it be, makes some difference in conduct, we have to give much consideration to *relative values*. By such consideration we may be able to grade experiences in the order of their importance. But any such gradation first of all requires the setting up of the standards to which individual elements are to be referred to determine their value. What are the large life activities which, taken together, constitute the good and worthy life? If we can determine the chief standards by which the excellence of conduct is measured then we shall be able to set a value upon every individual unit of experience by finding the degree to which it makes differences in conduct in attaining one or more of these

standards. Shall we teach children the names of the bones of the body? If such knowledge makes any important difference in meeting some important life need, yes; if not, no. Shall we have children learn to make baskets, or to test textile fabrics, or to judge of the quality of furniture, or to like fine poetry, or to work problems in compound interest, or to coöperate with others in carrying forward a common purpose? Yes, in each case, if the information or skill or appreciation makes an important difference in realizing one or more of the important aims of worthy living; no, if not.

The Factors of Conduct in Terms of Common Needs and Satisfactions. — Life as a whole is made up of very numerous and complex activities. But all of the great variety of activities may be reduced to a small number of large, inclusive, general groups. By unifying closely related forms of need and means for their satisfaction, a number of terms may be derived that are small enough to enable us to keep our perspective — to avoid either overemphasis of some or neglect of others. The purpose in deriving these inclusive terms is to select standards by which we may most readily and effectively determine the educational worth of particular activities.

As we make a survey of the needs and activities of man, we find that a very large proportion of the time and energy of life are concerned with the provision of the necessary food, clothing, shelter, and other materials to maintain life and health. In doing this, many skills,

many tools, and much exact information are used. Division of labor, specialized training, and coöperative enterprise all have been developed. The success with which life and health are maintained depends very much upon the degree of efficiency with which each does his own part in every phase of the production, transportation, distribution, and use of whatever is found helpful in maintaining life, health, and comfort. In addition to these individual and group enterprises there are many regulative measures, and some institutional enterprises developed by the whole people. These are the regulations of law, practices, and customs, agreed upon by the people in the respective geographical and political units for their common good. All of these activities have to do in the main with man's work. But in addition to his work, man has a need for play — for recreational activity in which the reward is not in a product but in the joy of the activity itself. In his leisure time we find man engaged in play or games of various kinds, in reading, in enjoying music or art, in travel, and in other forms of activity which are satisfying in themselves.

Out of these varied and numerous activities we may see with some degree of separateness that conduct is made up of pursuits which have to do with the needs and satisfactions of:

1. Health — maintaining life and keeping well.
2. Practical efficiency — using the tools and conventions of civilized life and of the technique of a vocation.

3. Citizenship — coöperating in the regulative processes of social control and civic and social enterprises.

4. Recreation — using leisure time for enjoyment and enrichment of the higher life.

That these terms overlap to a considerable degree and that they may be readily reduced to two, man at work and man at play, does not much impair their use as standards for reference in order to determine the value of any particular experience. It is in the activities represented by these terms that we find the most fundamental differences in the qualities of conduct and in the quality of life taken as a whole. If a man keeps himself in excellent health, if he is highly efficient in the use of the tools and the conventions of life and in his particular work, if he participates with intelligence and efficiency in the regulative, institutional, and other civic and social enterprises of his community, state, and nation, and if he uses his leisure time in a wholesome and upbuilding way we should certainly regard him as living a good and worthy life. The place of worship as a factor or element in determining the content or quality of conduct is recognized, but it is omitted because we are not permitted to initiate or provide any forms of religious experience, as such, in our public schools.

For the educational value of any proposed experience we may ask in terms of these standards: Does it promote health? Does it enable the individual to do his work better? Does it help to more effective participa-

tion in the regulative, coöperative, institutional activities of the group? Does it provide means for the wholesome use of leisure? If it does yield something which helps one or more of these kinds of activity forward it has educational value to just that extent. The more important the difference it makes in one of the four lines the greater its educational value as measured by that standard. If, on the other hand, it makes no positive desirable difference in any of these lines, its inclusion as a school experience would be undesirable. Even if it were not harmful in itself, such an experience would be a waste of time and effort.

Educational Needs Revealed by the Emergencies of War. — The emergencies created by the War of 1917 brought us face to face with our neglect in educating our people to meet the definite demands of life with efficiency. Measured by the four aims just stated we were found to be far short of attaining high standards. The examination of our drafted men — young men between twenty-one and thirty-one, in their very prime — showed that about twenty-nine in every one hundred were physically unfit for military service, while thousands accepted soon developed tuberculosis, heart trouble, and other diseased conditions under the rigors of military training — evidence of our neglect of effective health education. Calls for men and women of trustworthy skill and efficiency for various kinds of essential work revealed a failure in training effectively for many vocational activities

necessary in times of peace as well as in war. We were required to produce increased quantities of food and to conserve foods by preservation, by the use of substitute foods, and by eating no more than is required for good health. Our ignorance of methods of efficient and intensive farming and of food values and dietaries was found to be deplorable. Efforts to secure sufficient clothing of the right kind for ourselves, our armies, and the refugees of invaded parts of Europe revealed an astonishing want of knowledge of clothing values and illustrations of great waste in clothing materials. These are all evidences of failure to give proper consideration to practical efficiency as an educational objective.

The large percentage of drafted men and of civilians in government work who could not write or read the English language indicated a further neglect in requiring the mastery of the tools without which working efficiency is greatly handicapped. This widespread illiteracy, the want of knowledge of the history, purposes, and methods of our American democracy, the very frequent occurrence of expressions and acts opposed to the purposes and well-being of our country, and the difficulties often experienced in securing sympathetic and intelligent coöperation in carrying out necessary war measures all showed a need for far greater emphasis upon education for citizenship. The dangers which appeared in the army camps and among army civilian workers everywhere in connection with the use of spare

time revealed a failure to equip each individual effectively with habits, attitudes, and appreciations, for wholesome recreation.

The educational needs made prominent by the war were not created by the war and are not peculiar to war conditions. By the *degree* in which demands were made we became much more conscious of needs which in *kind* are quite as much the needs of peace. The war and its aftermath have made us realize as never before the necessity of measuring our educational activities in terms of these specific educational aims or objectives.

Considered Educationally, Needs Have Both a Present and a Future Reference. — The needs of children and adults are much the same in kind, although they vary much in degree. Children's interests and activities are largely stimulated and directed by the interests and pursuits of the men and women about them. Much of their play is in imitation of the vocational, institutional, and social activities in which their parents and neighbors are engaged. Their investigations through looking about their community, observing what is going on in stores, shops, and streets, on the farms, and in the gardens, and in connection with all forms of transportation facilities lead them to take an interest in the whole round of practical activities of adult life. Their interests in reading, music, the theater, and moving pictures, in games and sport, and in all other forms of recreational activity

follow the same lines as those which enlist the interests of their mature friends and neighbors. Because the purposeful activities of children and adults are so much the same in kind, every experience of the child in meeting some need in a new and better way is a preparation for meeting the same kind of need in the future. In childhood reading is for recreation, inspiration, or information, and it is for the same purposes throughout life. Whatever is experienced as a value to the child in reading, either in its mechanics or its content, will count as of value in his larger life. The knowledge of food elements and their selection to make wholesome dietaries is important to the child in taking care of his health as long as life shall last. In childhood, the uses of number are for the measurement of quantities or values in constructive work, score keeping, buying and selling, and other problems requiring measurement and computation. The uses of number for adults are the same in kind. History and geography are of use to children in explaining and interpreting the conditions of life about them — how these have become what they are, how they are controlled and directed, and how they may be most helpful and useful. The uses made of history and geography by adults aid also in interpreting the conditions of life and making adjustments to them. Whatever contributes to the solution of any problem in child life is almost sure to be of value in adult life. In this sense the future of the children is really present to

them — the adult life all about them represents the kinds of needs and activities which they will experience in the future and also the sources of a large proportion of their present needs and interests.

If the school devotes its work to furthering the normal activities of childhood as these reflect the social needs and interests of life in its complex whole, then each day's participation is both a realization and a preparation. The problems of the day are met through learning and using whatever they require, and many similar situations in the future will call for material and method which will be much the same. Each experience is also in some degree a means to some other which follows. Life is ever broadening through new experiences. In degree, intensity, and breadth adults have problems and needs very much beyond those of childhood, although they may differ in kind almost not at all. Children increasingly learn of these problems and are interested in them. The teacher has a responsibility in the selection of projects, which include elements required by these experiences of later life as well as in the immediate enterprises. This does not mean that the children are asked to take an interest in a problem *because* it will appear as their own at some future time, but because it is a real problem to them *now*. Learning how to find a percentage of a number is not to be taken up because of a possible need of the process in some future business transaction, but because some present project requires it. The teacher

is conscious of both the present need and the later situations which will call for the same process. The need has both a present and a future source of reference. The curriculum becomes the means of continuous preparation for the most complete and satisfying participation in adult life by the most complete and satisfying participation in the projects which appeal most genuinely to the enlarging interests of childhood.

Two Common Errors in Curricula. — The first of two common errors in curricula is their inclusion of much that makes no desirable difference in conduct, and their omission of much that is of very great significance for the conduct of life. Children are required to learn to spell many words they never use; many facts are learned in geography and history which are neither used nor usable in meeting any of the real problems of life; useless facts of nature are accumulated; obsolete or unusual processes in arithmetic are presented; and hours are spent in drilling upon technical aspects of language structure which bear no relationship to practice in speaking or writing. On the other hand there are omissions of much that is of directly usable value about foods, clothing, sanitation, and personal care of the body in relationship to health; there is but little work involved in finding out those things about the production, manufacture, exchange, and use of the various material commodities of everyday life which would mean economy and taste in their selection, use, and care; there is very little done to lead children to under-

stand the common purposes and means of civic and social coöperation required in a democratic community and state; there is a deplorable absence of that content in history which would acquaint children with the method by which social progress has really been attained, with the inventions, discoveries, and experiments in living which have brought about the social changes resulting in the civilization of to-day; and the curricula have been poor indeed in their offerings of literature, music, art, and other forms of recreational and spiritual interest when we think of the great treasures in these fields which the race has bequeathed to us. By eliminating from the curriculum the material which makes no significant differences in our behavior, we shall have room to include much more of that wealth of content which does make very pronounced differences in improving our thinking, our feeling, and our acting.

A second error that has been almost universal is that of requiring activities, desirable enough in their place, at a time when the pupil has no feeling of need for them and no personal sense of their worth. There is no purpose which the child is pursuing which requires the particular content. There is therefore no "mental set" or state of "readiness" for what is presented. Facts and processes in arithmetic are presented when there are no quantitative problems calling for these: technical aspects of language structure are assigned to be learned when there is no appreciation of their

use in speaking and writing; facts and principles in geography and events in history are prescribed without any consideration of their relationship to the interests and activities of the present-day world. The assignment of school tasks is often very much like requiring one to eat when one is not hungry. There is no genuine satisfaction in such work because it is not done in response to any real feeling of need for it. The attitude in performing these tasks is either that of conventional tolerance or sometimes even poorly concealed hostility. The only circumstances under which learning takes place with a maximum of interest, effort, and satisfaction are those in which the new is required by some genuinely, personally appreciated need. Whatever is found to promote a self-understood and self-projected purpose is mastered with a full sense of its worth. The mind is in a state of readiness for it and it is assimilated with relative ease.

Formulating the content of the curriculum in relationship to the use of its parts in carrying forward the various kinds of purposeful activity, making up the conduct of life, will help to remove both of these errors. That content which is of most significant use will be selected and its introduction will come at a time when it is needed.

The Curriculum Should Provide for All Phases of Behavior: Acting, Thinking, and Feeling. — In the conduct of life, thinking and feeling are of quite as much importance as is acting in a motor sense.

Thoughts and feelings are both the sources or springs of motor activity and the measures of satisfaction resulting from motor activity. Thinking and feeling have satisfactions of their own as well. Intelligent behavior means motor activities stimulated and guided by feelings and thoughts. But there is a need for thinking quite apart from actions guided by thought. Thinking gives satisfaction; and curiosity and interest give rise to many needs which are satisfied by thinking. There are many questions which appeal to us from nature and from the character, purposes, and relationships of human life. These questions lead to our thinking with much satisfaction about the materials of science, history, literature, and other forms of expression by which man has recorded his thoughts in the past. We also enjoy the appeals of form, color, rhythm, tone, and action as these are found in nature and as expressed in the arts. These appeals are to feeling, and we derive great pleasure and satisfaction by the emotional experiences which they afford.

Thought and feeling have very much to do with action, but they also have qualities of their own in which growth is possible and desirable. The curriculum should provide children with experiences which will help to influence their thinking and their feeling as elements of behavior for their own satisfaction as well as in their control of other forms of purposive action. To fill the spare time of children and adults with the reading of good literature, history, and science, with

listening to good music, with contemplating the beauty of form and color in nature and art, and with wholesome, health-giving play is one of the large purposes of the school quite as much as to develop the economic and civic aspects of life. To neglect recreation and the higher spiritual nature of child and adult life in any of its significant aspects, would be the most serious error the schools could commit.

The Curriculum Should Reflect All of the Aims of Life and Education. — It is the fundamental nature of life to realize itself more abundantly. It is likewise the aim of education to lead progressively into ever widening and deepening experiences. To live an increasingly rich and worthy life is therefore at once the broad, inclusive aim of all endeavor in both life and education. When present needs are satisfied it is important that new needs should make an appeal, and that these in turn, when satisfied, should still point forward to new experiences. To develop this many-sided interest in children the curriculum should stimulate participation in every form of worthy activity and reveal the large possibilities for going on and on through all the years of life, increasingly experiencing the values of science, literature, art, and all other forms of interest contributed by the past or developed by the future. The schools have not wholly escaped the danger of producing arrested development by cultivating a routine of habits which, when followed long, results in an attitude of apathetic contentment. The curricu-

lum must be shot through and through with the interests, activities, and ideals which ever appeal and lead us forward into larger realizations of life and which fill us with the zest and earnestness of youth as long as life shall last. Poor, indeed, have been the curricula of the elementary schools when measured by the possibilities potential in the richness of the race inheritance. Children and adults have gone through life without having been even made aware of the interesting and life-giving content of science, literature, history, and the arts. The most fundamentally potent ideal in this presentation is that of enriching and energizing the experiences of childhood that there may be a greater abundance and nobility of life as a whole.

CHAPTER II

GENERAL MENTAL CONTENT WHICH DETERMINES OR CONTROLS CONDUCT

The Three General Factors of Experience Subject to Direction. — While mental life as a whole is very complex, the results of its activities in everyday life may be summarized by three inclusive terms which indicate the factors which control behavior or conduct. What one does in a given situation depends upon the operation of one or more of these three elements of mental content: 1. Knowledge or information; 2. Habits or attitudes; 3. Appreciations.

Knowledge or Information. — If we are making a purchase of a garment, we use such knowledge or information as we have in determining the quality of the goods and construction of the garment, and these in relationship to the price. If we know textile materials quite well and know how to make tests to determine their quality, our information helps us in making a good selection at a reasonable cost. If we are ignorant of these values and methods, our selection may be poor and disappointing. In purchasing foods at stores or in selecting from menu cards at restaurants, our knowledge of food needs, food values for meeting needs, and the

money values of food materials determines how well we succeed in making wise selections. If the electric doorbell refuses to ring, what we do in restoring it depends upon what we know of the principles and methods of electric bell operation. When confronted by a problem in determining whether a given transaction has resulted in profit or loss, what we do depends upon our knowledge of the principles of arithmetic which apply in such cases. How we vote upon a given issue depends, in part at least, upon what we know of the actual meaning of the issue, the results from the previous experiences of men in deciding the issue in each of the two or more respective ways, and the probable consequence of its decision in each way in the present case. Whether we select a given play among many offered when we go to the theater depends upon what we know of the general character, content, and quality of plays. What we select as music to which we may listen, as magazines or books which we may read, and as places which we may visit for our enjoyment depends, in part, on what we know respectively of music, magazines, books, and places of travel interest. In general, no matter what the situation calling for action or thought, involving selection, what we do or how we think depends partly on what we know, upon the information we have acquired in relationship to the respective situations. Whether it be in relationship to health, to our work, to coöperation as citizens with others, or

to the use of our spare time, the information we have about these respective activities is a large factor in determining how we direct them. The purpose of knowledge, and indeed the very source from which it is derived, is its use in adapting conduct to the satisfaction of needs. Naturally the method of acquiring knowledge which makes its use most effective is through developing it in situations which themselves require it. Every item of knowledge to be operative in the meeting of needs must be appreciated in relationship to the needs for which it is useful.

Habits and Attitudes. — What we know as mere information is not always of itself operative in producing activities required for meeting certain kinds of needs. Knowing much about the structure of the teeth, causes of their decay, and the importance of their care is not of itself assurance that the individual will brush his teeth when and as he should. Merely knowing that the letter, *a*, should be made to look a certain way, and that the pen should be held so and so to get the best results in making the *a*, does not mean that the learner will make the *a* and hold his pen in the way his information tells him is best. Merely knowing that certain fingers should be used for certain keys on the piano or typewriter does not mean that these fingers will be so used. Merely having the knowledge that it is more efficient always to deliberate or weigh carefully the several factors for and against before making a decision does not insure this as a

method of procedure. In all such activities and many more, involving both mental and physical factors, the qualities of invariability, speed, and efficiency depend upon the degree to which the response has become a matter of habit. While we commonly call these tendencies to immediate response to specific situations habits, there are tendencies to act, think, and feel in immediate and definite ways but with much less exactness in both the situations and the response. These more general forms of automatic responses we call attitudes. When we refer to people as invariably honest, or sympathetic, or patriotic, or studious, or selfish, or optimistic, or thoughtless, we are referring to attitudes. These attitudes are tendencies to respond to varying situations by acts or thoughts or feelings which may differ from each other very greatly but which will all illustrate some general and predictable form. The situations responded to by the attitude we call patriotic may differ greatly from time to time, and the responses may equally differ — at one time by displaying the national flag, at another by volunteering for army service, at another by loaning money to the government, at another by serving as a public official at personal sacrifice, and so on, but always illustrating the attitude of patriotism.

In the method of their development, habits and attitudes result from the same general form of procedure. A habit or attitude is formed as a result of meeting a given situation or type of situation with the

same response or type of response so often and with so much satisfaction that when the given situation again appears the given response will tend to follow automatically.

That the behavior of individuals is very profoundly affected by their habits and attitudes indicates the importance of their appropriate formation in the period of childhood and youth. The connection between knowledge and attitudes is vitally close. Knowledge of the reasons for specific activities and their consequences is essential in making a selection of responses which, repeated, develop the attitude. The pupil or student may be wholly unconscious of the attitude as such, but he should be conscious of the value of the response he makes to each specific situation and should derive satisfaction from it. General attitudes are the by-products of many like responses to like situations. While the general attitude of patriotism or unselfishness or loyalty should be highly developed, the use of intelligence in determining which response of several is most genuinely effective and satisfying must always be employed to avoid the making of conduct mechanical. One of the most important attitudes to develop as a safeguard to the healthful operation of all others is that of open-mindedness.

Many of our health activities must become matters of habit and attitude to be effective. The efficiency of our practical activities depends in a very large

degree upon the unerring certainty of our habits in matters of routine and detail. Whether we are living up to high ideals of citizenship is largely a matter of the quality and motive force of our attitudes. Our pleasures, the uses of our leisure time, are to a very considerable degree the exercise of habits and attitudes whose expression gives us satisfaction.

Appreciations. — Other things being equal, we select those things which we like and we do those things which we like to do. Our appreciations have to do with our likes and dislikes. When we buy furniture, or rugs, or clothes, or pictures we illustrate by our purchases what we like in form and color. When we freely choose among many magazines and books what we shall read we show by our choices what we like. The kinds of music we select to hear indicate our likings for music. The plays, games, sports, and other forms of indoor or outdoor activities we engage in during our spare time are evidences of the kinds of activity we enjoy. Whatever we do to occupy our leisure time is a measure of what we like to do. Our work itself is, in some measure, an evidence of what we like to do. Our appreciations are a very large factor in determining our conduct. Appreciations or likings are, perhaps, only a special type of attitude. To a considerable degree they are developed in the same way, that is, they are the cumulative results of many experiences of the same kind, each of which gave a large degree of satisfaction, leaving a tendency for

more activity of the same kind. If in school the study of form and color is enjoyed, one will tend to be interested in form and color and to enjoy them outside of school and in after life ; if music as studied in school gives genuine pleasure, listening to music will tend to become a satisfying means of occupying spare time ; if literature studies are enjoyed in school, then the reading of poetry and prose of good quality will tend to be continued as a source of interest and enjoyment outside of school ; and if the activities engaged in for the sake of healthful physical development are full of the joy of the play spirit these will tend to go on through life as one means of spare-time occupation. We like to do again that which we have done before with satisfaction.

The school has within its power the opportunity to cultivate such degrees of appreciation for beauty of form and color in nature and art, for the reading of good literature, for listening to good music, for the contemplation of dramatic art, and for the participation in plays, games, and sports, that these interests will very largely fill the spare time of the pupils outside of school and through the subsequent years of life. In each field — art, literature, music, drama, or physical activity — the standards for which likings are developed may be high or low. The key to the development of an appreciation of the most desirable standards in every one of these fields is the same as the key for developing habits and attitudes and for

making knowledge permanently usable. This is by meeting genuinely felt needs with responses so satisfying that the subsequent appearance of the same or a similar need will be followed by a strong tendency to the same response. The only way through the school to make the students after school life love and enjoy the reading of fine poetry and prose is so to teach these that they will be enjoyed in school. Whatever you would have the adult enjoy as a wholesome spare-time activity, that you should have him enjoy in school.

In a very large sense, it may be said that what we enjoy is a matter of habit. Some have the habit of spending their leisure in reading; some, in music; some, in plays or sports; some, in gardening; and some, in combinations of these or other things. The chief reasons for separating appreciations from habits and attitudes for discussion is because of the large emotional element — that of enjoyment — which enters into appreciations, and because of the practical need of emphasizing their importance in the use of leisure. While these leisure activities have much to do with the wholesome use of spare time, they have an indirect value for the whole round of life's activities. They contribute to health, some of them in balancing occupations physically active in form, some sedentary in character, and all in giving mental tone or feelings of tranquillity and well-being. This again reacts upon efficiency in one's work, and has its place in making

for effective coöperation in regulative and other activities constituting good citizenship.

There is also a form of intellectual appreciation which counts for much in the conduct of life. It has to do, in part, with that breadth of interest which expresses itself in an effort to know about the discoveries of science; the inventions in industry and art; the experiments in political and social life; and the new interpretations in philosophy and religion. It also has to do with that understanding of our work and our relationships to others which gives a sense of worth to our endeavors. It is the recognition of meanings and values in life and conduct. It develops from a growing knowledge of the strivings for more abundant life and of the natural and social limitations and conditions under which the struggle goes on. This intellectual appreciation is made up of both an understanding of nature and human life, and a satisfaction in learning more about them. It is a quality which should be inherent in some degree in all wholesome experiences.

With the relatively short working day, and with the growing reorganization of occupations by the use of machine processes, reducing much work to mechanical routine, the problem of the use of leisure so that it may be wholesome and uplifting rather than destructive and degrading becomes increasingly important. With but eight hours of the twenty-four devoted to occupation, men and women have from two or three to five

or six hours each day to devote to activities whose purpose may well be enjoyment and enrichment of the finer qualities and values of life. Whatever increases the clearness of the meaning of life and of the means for satisfying its needs in the mind and service of each individual, will advance the well-being of all. Leisure should afford time for the study of such problems, for acquaintance with the ideals and heroic characters of history and literature, for the inspirational stimulus of music and art. But if these activities are to be the spare-time interests of adults they must be so presented that a permanent liking for them and an abiding interest in them will be developed in the schools.

The Three Foregoing Factors in Relationship to Educational Objectives. — Upon the basis of the discussion of the foregoing three factors — information or knowledge, habits and attitudes, and appreciations — we may make a partial test of the value of any proposed item of school experience. From the purely individual side, we may ask, does this experience provide any information, initiate or cultivate any habits or attitude, or awaken or cultivate any appreciation? Certainly *any* experience would yield something in terms of one or more of these three factors. But, whatever the element or elements yielded, there is no basis, in terms of these mental factors *alone*, for determining their worth. The information might be of no consequence. The habit or attitude might be

positively bad. Appreciations or likings might be for something undesirable. The question must be asked in terms of life purposes served by these mental elements — What information, or habits or attitudes, or appreciations are yielded by the experience that make for keeping well, or for making one more capable in one's work, or for coöperating more effectively as a citizen, or for spending one's spare time more profitably? By making the test apply definitely to the purposes of life, the answer in any given case would indicate the most direct and appreciable values of the experience. If the proposed work grows out of a genuine need, the worth of the work can be determined by the degree in which it meets the need. By noting which of these kinds of mental factors are required, the method to be used is suggested as well as the subject matter needed. Since the values of particular units of mental content can be measured only in terms of their use in life itself, the primary practical problem lies first in an analysis of life purposes and activities and in a determination of their relative importance. The further analysis of the particular activities into the kinds of mental content used in carrying them on becomes a problem involving both content and method.

The Activities of Mental Life as Commonly Defined. — In using terms that are the results of the activity of the many aspects of mental life, knowledge, habits and attitudes, and appreciations, rather than the

terms indicating the activities themselves, sensation, perception, memory, imagination, reason, emotion, etc., the aim is to emphasize elements which are just as concrete and tangible as possible. This also avoids the problems of analyzing complex mental processes which concern psychologists much more than they do teachers of the public schools. The point of view here presented includes the assumption that the aspects of mind which we call perception, memory, imagination, and so on, develop as by-products of the activities necessary in adapting behavior to the meeting of needs.

Mental power — ability to attack problems and enter into experiences with promptness, effectiveness, and success, — is normally developed in the resolution of the daily problems of life just as the powers of resistance and steadfastness, under storm and strain in the great oak, are developed in the conflicts of wind and weather through the days of its growth from acorn to forest giant. Various mental elements, acting coöperatively in meeting situations having both a personal and social relationship, together develop those general virtues of personal responsibility, honesty, courtesy, courage, generosity, sympathy, and other ideal qualities which constitute a unified and positive character.

The more knowledge of mental processes the teacher may have the better, but her problem is primarily one of leading the pupils into situations which reveal

needs for activities of large social worth and helping them to engage effectively in these activities to satisfy these needs. If this is so well done that the children grow in their consciousness of needs and their ability to meet them with progressively less help from the teacher we may assume that the processes of mental life are developing normally and effectively. The emphasis for teachers must be upon needs, activities, and the satisfaction of needs through activities. That a knowledge of child psychology is essential in the selection, grading, and developing of these activities is assumed, but the present discussion limits itself largely to the question of the content of these activities, their "what," rather than their "how."

Native Impulses and Tendencies to Behavior. — All of the activities of life flow directly from native impulses or tendencies to behavior. These inherited tendencies in the form of instincts and capacities are the starting points for all educative experiences. Some of these tendencies are directly contributory to desirable behavior — that is, the experiences which come from their activity result in meeting genuine life needs and lead on to other needs and activities. Others of these tendencies are undesirable — they do not represent needs that are genuinely connected with activities of value in increasing human well-being. These latter tendencies have to be either destroyed by making their activities immediately annoying or painful, or directed away from an undesirable form

to a substituted desirable form, or made to die by disuse by keeping children so occupied with desirable activities that the tendencies to undesirable activity have no chance to express themselves.

While the desirable tendencies are many, they may be grouped for educational purposes into a very small number as to their general form of activity. Those most effective in meeting the needs of modern life are: (1) the play impulses — tendencies to be active both physically and mentally for the satisfaction found in the activities themselves; (2) the social impulses — tendencies to communicate with others and to co-operate with them in activities for meeting common needs or merely to be with others; (3) the investigating impulses — tendencies to inquire, to explore, to find out about the existence and nature and explanation and ways of working of things and people; (4) the constructive impulses — tendencies to make or build structures of various materials or media; and (5) the art impulses — tendencies to enjoy and create harmonies of form, color, physical activity, tone, and language. While these tendencies all more or less overlap, each general form clearly has aspects and values peculiar to it. All of these tendencies in their earlier appearance may be called play activities — the satisfaction is in the activity and not in any product resulting from it.

But, by the continued expression of these tendencies, there gradually emerge needs which are satisfied by

the product of the activity rather than by the activity itself. Sounds uttered merely for the sake of the enjoyment in uttering them come to be words and are used as means or tools; association with others, satisfying in itself, is found to be usable in doing things we cannot do alone; investigation, at first satisfying curiosity only, results in knowledge that becomes useful in locating things, making constructions and guiding in other practical activities; constructions themselves, at first giving satisfaction in the mere manipulation activities, become purposive for meeting needs of finished products; the combinations of form and color, of sounds, and of activities into harmonies, which of themselves give satisfaction in early childhood, are later made as means for beautifying one's surroundings or enriching other purposeful activities or situations. The life history of desirable impulses important for education is a progression from their expression in forms of activity satisfying in itself, which we call play, to expression in forms of activity engaged in for the results they produce, which we call work. The play impulse is so varied in the forms of activity which may satisfy it that it may associate itself with any other form of desirable activity — one may enjoy his work with the full exercise and satisfaction of the play impulse.

Native Tendencies and the Making of the Curriculum. — The practical use of a knowledge of these native tendencies by the teacher is in enabling her to work

with nature rather than against it. Knowing that the child is limited in educational activities to those which are in response to genuine needs, and that capacity for meeting needs is limited by nature and markedly different in degree in children, the teacher will encourage and consider the expression of native impulses as of great importance in revealing instincts and capacities ripe for educational development. It is not possible here to go farther in the discussion of these native impulses or tendencies. The purpose in this brief summary is to indicate that children have a native equipment for adaptive behavior; that all of the acquired elements of conduct develop out of these native impulses, or in combination with them; that these impulses, beginning with activities satisfying in themselves, progress more and more into consciously purposive activities; and that the full expression of impulses is an index or evidence of the kinds and degree of activity most educationally needed by children at any given time.

In determining how to utilize these impulses most effectively, it is necessary to consider them in terms of the objectives of life. What experiences, satisfying to these impulses or connected with them, will aid in health development? Which will promote practical efficiency? Which will make the use of leisure most wholesome and satisfying? These questions have to be answered in selecting and organizing in sequence the material that makes up the school curriculum.

What, on the one hand, are the purposes and problems of life and education as a whole; what, on the other, are the native impulses, tendencies, capacities, and acquired experiences of the individual child to be educated at any given stage; and what now are the immediate needs and activities which will keep the child moving forward to the fuller participation in the purposes of life, using his impulses, capacities, and previous experiences?

The following chapters devote themselves largely to the answer of the first of these questions — what are the purposes of life and education — but in such terms that much help will be given to the other two, although these will not be discussed in detail. What man's needs are and how the schools may be efficiently helpful in revealing these needs to children, and in giving valuable participation in meeting them, is the specific problem to be developed.

The background for the material presented includes an appreciative recognition of the basic facts and principles of psychology and method and a response to their guidance. It includes also a clear recognition that the curriculum, whatever the form, is not the end of education, but a means. The all-inclusive end of education is the development of free, effective social personality; and such modifications in the curriculum as are proposed are offered with the conviction that they increase the efficiency of this means in the growth of self-active, socially-guided personality.

CHAPTER III

THE GENERAL AIMS OF LIFE IN TERMS OF PURPOSEFUL ACTIVITIES

The Four Large Fields of Purposeful Activity. — Broadly, human beings are engaged in the four forms of activity already briefly noted, namely: (1) Maintaining and preserving life and health through the use of the material necessities of life and the appropriate care of the body; (2) Producing the necessities and luxuries for which man feels need and making these available through exchange; (3) Coöperating with others in maintaining the protective and regulative measures for the common good, the institutions of life — the family, the state, the vocation, the school, and the church; and (4) Occupying leisure in pursuits engaged in for the enjoyment which they yield. Notwithstanding the fact that these groupings are very general and that they greatly overlap, they offer a relatively limited and simple basis for finding and classifying human needs, and for weighing experiences to determine their life values and, therefore, their educational worth. But, necessarily, each must be broken up into its specialized forms of purpose and activity to make its content concrete and usable.

Activities for Maintaining Life and Health. — Directly or indirectly, a very large proportion of man's endeavor is concerned with maintaining life and health. Health requires that one have food of rather definite amount and quality, clothing sufficient for adequate protection, and shelter from the elements. It also requires the avoidance of all disease-producing accumulations about habitations which necessarily give rise to the numerous problems of sanitation. Since only a very few people are engaged in the production of each of these materials and products used as food, clothing, and shelter, or in their transportation, trade, or preparation for immediate use, we could not hope to consider all of these activities in terms of their health relationship alone, in determining their educational worth. But we may select those aspects of the uses of food, clothing, and shelter which directly relate to health, and which may be rather directly controlled by the individual himself.

Foods. — It can be readily appreciated that the processes of cookery are but a minor part of the whole problem when we consider what one should know of foods, the habits and attitudes in the use of foods which one should develop, and the tastes which one should cultivate in order to select and use foods most healthfully. Effective selection of foods requires at least an elementary knowledge of the food elements and the amounts of these needed by the body, the foods in which they are respectively found and in what quan-

tities, the foods which may be substituted for other foods to get the same values, the amounts and kinds of foods needed under varying conditions of age, health, physical activity, and climate, the effects upon foods of cooking by various means and in various degrees, food preservation, and enough of the economics of buying and preparing foods to enable one to secure enough food of satisfactory variety without excessive expenditure of money. Upon the knowledge of these matters and upon the habits formed in making this knowledge effective in the daily selection and use of food, the health of the individual very largely depends. Upon health depends the amount and degree of efficiency of work and the length of life itself. Certainly a need so fundamentally important to the preservation of life and health is one which it should be the purpose of the school to meet with the highest possible degree of efficiency. That the schools have as yet done relatively little to reveal food needs and teach people intelligently and effectively how to meet them, was brought out by the food emergency in 1917 and 1918.

Clothing. — The appropriate protection of the body by clothing requires knowledge of bodily needs and how to meet these by the use of the various textiles and other clothing materials. The mere knowledge and habits of sewing alone are only of indirect value, since in our day production is largely relegated to factories. Differences in the protective values of cotton, wool, linen, and silk, in garments of leather, rub-

ber, paper, and other materials used in shoes, of weights of different materials, problems in changing from one kind of material to another, and the problem of the cost of clothing, are all questions suggestive of the needs for knowledge and habits of dress which relate to the requirements of health. The element of appreciation also is important here. What one likes and what is healthful are frequently opposed. The sacrifice of health in exchange for the satisfaction of the high-heeled shoe, or of garments harmfully tight, or of materials of too light weight for adequate protection, are common illustrations of this. Appreciations, attitudes, and habits as the directive forces to action may be relied upon as desirable only when they are in harmony with intelligence.

Shelter. — Heating, lighting, ventilation, and sanitation are the problems of shelter most directly related to health. The losses of life through ignorance or bad habits in matters of heating, ventilation, and sanitation are large enough to make us see the need for making the necessary knowledge and the right habits in these matters a part of the equipment of every individual. There are houses in almost every community so kept that they literally foster the development of colds, influenza, pneumonia, or tuberculosis.

Many health needs are thus seen to be connected with the appropriate selection and use of foods, clothing, and shelter. Any school study of these, therefore, should so emphasize these needs and provide sufficient

participation in meeting them as to equip each person to be reasonably intelligent and effective in maintaining his health through his use of these life necessities.

Care and Exercise of the Body. — Health requires the cleanliness of the body. The desire to maintain an appearance pleasing to others helps to reënforce this need. Knowledge of structure and use makes one intelligent as to the reasons for cleanliness of skin, nails, and teeth, and intelligent also as to the best means for the care of the body. But the knowledge should be accompanied by the development of habits, attitudes, and appreciations which will operate effectively with little conscious attention. Apart from the health aspects of food, clothing, shelter, exercise, and sex life, the content of personal hygiene is not large. The development of healthful habits and attitudes is the largest problem, but this is more simple if made intelligent by adequate information given in direct connection with the habit-forming activities.

Proper exercise of the body for those not receiving adequate physical activity through their work must almost of necessity become a habit or it is neglected. The most satisfying form of exercise is that of the play, game, or sport which is highly enjoyed for its own sake. It provides the physical activity as incidental to play and the satisfaction strongly tends toward keeping it up as a habit. If the physical activities developed in school for health purposes are not made highly enjoyable their chance for persistence after one leaves

school is very small. Enjoyment itself has a health value. For those whose work provides enough physical exercise for normal health, some additional participation in games or sports highly enjoyed is probably of value in giving wholesome tone and attitude to body and mind. The mortality among business and professional men of middle age seemingly due to their sedentary habits is so large that it constitutes a very great social loss. The school should provide the knowledge of health conduct necessary throughout life. But it should also develop interests in wholesome activities adapted to spare-time needs and conditions, and habits of participating in these with satisfaction and enjoyment so that they may become just as much a part of each day's program as work or sleep.

Practical Activities and the Means of their Pursuit. — To supply man with all of the satisfactions which he desires, requires that each do some kind of work — have some kind of an occupation or vocation. Some are engaged in producing raw materials by the work of agriculture or mining; some change these raw materials in form, making them more usable by the work of manufacturing; some engage in the transportation of materials, products, and people; others are occupied with problems of exchange in wholesale and retail trade and the associated communication and other forms of office work; some engage in the regulative or public service activities which we call civic or governmental in form — as legislators, executives, judges, police,

postal employees, and so on; others render professional service as doctors, lawyers, teachers, ministers, actors, musicians, writers, and artists, and still others engage in the immediate preparation or serving or care of food, clothing, and shelter as these are used — cooks, housekeepers, maids, waiters, janitors, hall boys, elevator boys, shoe polishers, and the like.

To engage efficiently in any one of these kinds of work requires kinds of activity for meeting very special and particular needs. The needs and work of each one differ much from those of every other. Yet, at the same time, all require many elements which are the same in kind. Not one of these occupations can be followed with completeness and with high efficiency without the help of reading, writing, and arithmetic as tools used in connection with them. All require good health. All require the attitudes or habits which we call honesty, industry, sobriety, persistence, promptness, and loyalty.

But in addition to the effective pursuit of his work, each engages also in the practical uses of food, clothing, shelter, means of conveyance and travel, the instruments or machines of communication and other devices, tools, and facilities for satisfying the common needs of life. The individual, whatever his occupation, has need for the knowledge of food, clothing, and shelter, and of whatever else he may use which will enable him to select and purchase with intelligence as

to material, quality, and economy in price. He has need for the attitude of considering questions of the appropriateness of the thing selected to its purpose, its durability and its value as compared with other things which might be selected instead. He has need for taste so cultivated that whatever he selects may be beautiful as well as useful. While many of these problems concern health, they also involve these considerations of practical use, economy in cost, and excellence in design.

The school, therefore, has a very large problem in revealing needs for knowledge, habits, and appreciations in the practical activities of everyday life. Its problems in developing the knowledge, habits, and appreciations through activities which satisfy these needs, as they must be met in life, are even greater. The problems common to all are properly the work of the earlier years of school life, while those having to do only with the special needs of those in particular occupations must be left until the partial differentiation of the high school or college periods when vocational preparation is begun.

Civic and Other Regulative Activities. — In adapting the ways of living to the common good, regulative measures to protect and serve both the individual and the group have been gradually developed. The family, as a unit, is the result of the regulation of marriage and the care and support of children. Government with its local, state, and national forms provides regulative

means for conducting business, for controlling conduct of individuals and groups of individuals so that injustices may fall upon no one, and for taxation, to support certain enterprises. Governments provide for the coöperation of all in accomplishing purposes which individuals could not well do working singly or in small groups. The post office and its work are an example of such coöperative effort. The school is another coöperative enterprise of the whole people to provide children and young people with effective experiences in the most desirable activities of life. Churches are other examples of coöperative endeavor which require organized effort in a common purpose. Occupational life is also regulated and somewhat organized for the common good, although it is very unevenly and loosely organized and controlled by law. In general the vocations unsystematically attempt to coöperate in providing people with what they need by each person's undertaking to do what he wants to do or what he can find to do with a rather vaguely assumed supposition that each will then do what he can do best. By exchanging products all are supplied with that which they wish, each endeavoring to produce more of what he contributes than he can use himself. In some cases, as in law and medicine, teaching, driving automobiles, and in some other vocations, regulation exists to the extent of requiring persons to show a certain degree of training before they are permitted to begin their work. But most occupations are as yet

wholly without regulative standards. In occupations in which a single employer engages large numbers of workmen there are some regulations as to the conditions under which employees work — health, hours of labor, employer's liability for accidents, and conditions for the settlement of disagreements between the employer and his workmen. By the means which the machinery of government provides, greater or less regulation of vocational activities is possible. Laws may be enacted and enforced whenever the people as a whole desire them.

Each community also constitutes a coöperative group partly regulated by laws and partly by their sense of what coöperative activities are desirable, aside from those provided by law. Customs and conventional usage have resulted in many forms of coöperative relationship which we think of under such terms as courtesy, politeness, fair dealing, and community pride and spirit, all growing out of a realization of the fact that in community life each must do his individual part for the common good, even at some personal sacrifice. In everyday life, the finer qualities of citizenship are more fully called upon and tested in these personal contacts with neighbors and business associates than in the exercise of privileges and duties in connection with the established machinery of civil government. It is only from time to time that we are required to help " officially " in deciding public policies, local, state, or national, and in the selection of persons

to enact and enforce these policies, while we are required continuously to observe right and helpful relations with those about us in maintaining community ideals and standards. Of course, at all times we must live in harmony with established laws, but it is much easier to be merely law-abiding than it is to live up to high standards of social conduct dependent upon good will and right attitude alone without the added threat of legal penalty for violation.

It is, therefore, a very large and important problem for the school to develop clear insight and intelligence of the ideals, standards, and means of regulative control and coöperation, both by law and by the more personal appeals of custom, duty, and privilege; to cultivate habits and attitudes in the practice of these activities; and to develop an appreciation of them as activities yielding large and wholesome satisfaction. Continuous participation in these activities with the knowledge and insight derived from solving the problem in the best way is the only mode of genuine growth and progress in the qualities of citizenship.

Recreational Activities — The Use of Leisure. — As the working efficiency of the human race increases through the use of machinery, more effective specialization, and better organization, the time required each day to provide all of the material necessities and luxuries of life grows less. This leaves more time each day for those activities in which one may engage solely for the enjoyment derived from them. Thinking of

the three, four, or five hours of spare time in each working day, the several hours of Sunday, and the holidays and vacation periods through the year, man has a very great amount of leisure. For the man with the eight-hour working day, the spare time totals over 1700 hours, or more than 200 eight-hour days, yearly.

It is in recreational activities that the native impulses and tendencies assert themselves most freely and fully. Habit, attitude, and appreciation are, in general, much more operative in determining recreational pursuits than is mere knowledge. Activity that is in itself satisfying is the thing desired. The kinds of activity which by native impulse or tendency bring satisfaction are various: They include (1) activities of sense — the delight in the experiences of sight, the enjoyment of form and color; of sound, the enjoyment of tones and of music; of taste and smell; and of bodily exercises as in excursions, play, sports, or dancing; (2) activities which are social — association with others as seen in visiting, parties, receptions, competitive games, group plays, clubs, and other organizations formed chiefly that groups of persons may get together; (3) activities in the historic or dramatic — reading of history and literature, participation in or observation of plays, or moving pictures, or other forms of entertainment; (4) activities in intellectual inquiry or investigation — reading for information, or attendance upon lectures, or attending extension or continuation school classes, or conducting experiments; (5) constructive

activities — avocational shop or garden production; and (6) art activities — avocational creation of beauty in form and color. Many of these interests are satisfied by bodily activity primarily, others by mental activity, yet others by an active participation of both body and mind. Some are relatively passive. These activities may be thought of as low or high in the degree in which they are merely animal, satisfying by the quality of sensation alone, or as they are expressive of higher human values, satisfying because they stimulate thoughts and feelings associated with ideals, purposes, and relationships. The satisfaction of any of these interests may be wholesome. But it is also true that the satisfaction of any of them may be injurious in its effect. Injury lies in two possibilities: the activity may be carried to excess; or its quality may be bad. Satisfying the sense of taste by eating anything wholesome in a quantity not in excess of bodily needs is quite appropriate; but overeating or eating anything of poor quality is injurious; reading, harmless as activity if the quality of the matter read is good, may be overdone; going to see moving pictures is a worthy use of spare time if the quality of the pictures is wholesome, and if so much time is not used in this way that other activities of greater value are crowded out. Sedentary recreations which are wholesome in themselves are very numerous, but if one is in need of vigorous out-of-door exercise, the pursuit of the sedentary recreations may become an indirect source of injury.

All recreative activities should be upbuilding — genuinely re-creative of tone and capacity for more efficient activity. If the use of spare time to any one becomes a means of down-pulling to him rather than of upbuilding — a means of weakening health, impairing practical efficiency, or developing unsocial attributes — then does his leisure become a curse rather than a blessing. The general tendency in passing from childhood to adulthood is to substitute the sedentary forms of recreation for those more physically active forms. This imposes the need for teaching the importance of physical activity throughout life for health's sake, and the development and cultivation of many forms of out-of-door sports, games, or avocational interests well adapted to the conditions of adult life and environment.

The sedentary or relatively passive forms of recreation should yield large values in their uplifting, refining, and socializing influence. Listening to music or producing it, reading, going to lectures, conducting experiments or pursuing definite lines of study for the satisfaction derived, traveling, engaging in club activities, writing, and painting, are all forms of recreation which may yield satisfaction in themselves. They also make for a wholesome feeling of well-being valuable in the preservation of health ; they help to develop attitudes of mind toward others and toward life which increase working efficiency ; and they stimulate thought and feeling productive of finer and more effective qualities of citizenship.

The studies which have shown the close relationship between crime and unwholesome recreation and between poor health and improper recreation, and the very general failure of young people and adults to use spare time wholesomely and profitably impress the need for the schools to stimulate, develop, and cultivate satisfying and uplifting forms of recreation which will persist in meeting spare time needs throughout life. These make life richer, more worth while, and more effective in realizing all of its purposes.

Participation in Life Activities the Means of Realizing Life Purposes. — In accomplishing all of these large life purposes — health, practical efficiency, civic and social coöperation, and wise and wholesome recreation — the only means of growth is by effective and satisfying participation in these activities. Meeting each day's needs of childhood is the best preparation for meeting the needs of adult life. There is no opposition between the needs of child life and of adult life. Life as a whole is a continuous process. The experience which satisfies a particular need at one time is not only of value for the occasion but it is a means of more readily and effectively meeting needs of the same general kind, but of a higher order which come after. At any period in life the knowledge gained, the habits or attitudes developed, and the appreciations cultivated tend to become permanently usable factors in meeting situations to which they apply. In a truly educative process, every experience may be regarded as a stepping

stone to a larger experience. The larger experience is only possible to the degree in which the activity of the preceding experience was successful in satisfying the need to which the activity was a response. This is only a larger way of saying that we learn to do by doing. It includes in addition that we learn to think by thinking, we become good citizens by acts of good citizenship, we form habits and attitudes by the use of the activities which make them, and we develop appreciations by particular experiences in enjoyment.

Life Purposes and the Tool Subjects.—In attaining the larger particular purposes included by the immediate general aims of life, stated in the foregoing pages, many subordinate problems arise. To go forward to the larger purposes these minor problems must be solved as means to ends. New information becomes necessary. Facts or formulas or processes must be used accurately and rapidly or time and effort are wasted. Particular habits or skills are required. In almost any large project in life it is found necessary to read, write, spell, and use some of the facts and processes of number with accuracy and speed. Simple forms of drawing and some manual dexterity are often required. In using as the chief and leading activities of the school curriculum these life projects whose value the children at once appreciate and in which they engage with enthusiasm, the need for the various means or tools used in carrying on these interests is literally forced upon them — not by the teachers, but

by the situations. Reading, writing, spelling, number, and drawing become so necessary that the worth of learning them thoroughly becomes self-evident. Such drill work as they require is not now isolated or meaningless. Projects in really living reveal the needs for the tools required in life and enkindle motives for their mastery.

The Curriculum and Vocational Guidance. — To make an intelligent selection of an occupation to be followed as a life career, one requires a knowledge of the various kinds of occupations with their requirements and opportunities, and a knowledge of one's own capacities. By making the curriculum a reflection of the activities of life, the work of the school directly contributes much information of both kinds. The projects in practical arts and the commercial arts, and the productive or creative work in fine arts, music, literature, and physical education, together with the studies in civic and other forms of coöperative activity call for investigations which acquaint pupils with many of the requirements and forms of activity in a variety of the more common occupations. Direct studies in the wage returns, conditions of life, and opportunities in various occupations, made as parts of the economic and social problems arising in the practical arts, arithmetic, and civic aspects of life, add to this information.

The participation in projects relating to the occupations, and in the development of skill in the several

tool subjects reveals capacity for doing various kinds of work. The degree of success with which each kind of work is pursued in school is some measure of the capacity for doing the same kind of work outside of school. If little capacity is shown for that kind of thinking requiring the use of symbols and relatively abstract elements, this of itself is evidence of little capacity for success in professional occupations, while much ability for such thinking in school indicates a kind of ability that would make for success in such occupations. The school work should also reveal degrees of capacity for probable success in occupations requiring mechanical ability, ability in design, ability in the commercial arts, ability for the management and direction of people, and ability in organizing and managing affairs.

In the elementary school period evidence of interest in occupations, and capacities for them are not always final, but they are prophetic. The curriculum should offer large opportunities for securing occupational information, and for developing and testing occupational interests and capacities. In the measure in which projects do this, the work of the elementary school contributes help in solving the problems of vocational guidance for each pupil.

CHAPTER IV

PERIODS OF EDUCATION IN TERMS OF LIFE PURPOSES

The Three General Periods of Education — Elementary, Secondary, and Higher. — The three periods in education usually included by the terms, elementary, secondary, and higher, as used in America, are a recognition of life purposes of both general and specialized form. Although the particular number of years designated as belonging to each period varies, and is in part due to the accidental character of its development, the general purpose and form of organization of schools for each period represents a response to certain fundamentally appreciated needs of individuals and of society as a whole. Without reference to historic development or to the existing variability in organization, a consideration of the purposes most fundamentally served by each of these three divisions of education follows.

The Elementary School. — It is the purpose of the elementary school to provide experience in meeting the common needs of all, regardless of sex, vocation, or social status. Its content is made up of those activities in which every one must participate with a like degree of knowledge and skill and with like at-

titudes and appreciations, in order that there may be a unified, efficient, and stable social life. Its activities, values, and ideals may be regarded as the common denominator of life for the whole nation. It deals with children during a period in their lives when their general tendencies to action, thought, and feeling are most nearly alike and most susceptible to a common appeal. It deals with social purposes which are the same for all. It applies itself to the development of that knowledge, of those habits and attitudes, and of those appreciations which enable people to understand each other, to share in the common life, to coöperate in realizing common purposes. To return to the four general objectives of preceding pages, its purposes are to provide that general basis for health, equally desirable for all; to develop that practical efficiency in activities shared by all in daily work and intercourse; to develop those ideals and habits of civic and other forms of group activity of equal value to all; and to cultivate interests and means of recreation common to all. This, of course, does not mean that the facts of individual difference in children are to be neglected in the elementary school, nor that differences in local environment are to be ignored. In method of teaching these differences are of profound importance. But the content of activities — the understanding of how the needs of life are met, the experience of the race in living, the value to life of interests and activities as found in history and literature, the ways of recrea-

tion, present and past, the tools used by man, as reading, writing, number, drawing, mechanical skills, and devices for group activity — may and should be the same in the elementary school for all children everywhere. This content appropriate for the elementary school is equally of interest and value to boys and girls. The basic needs of men and women for preserving health, for doing well the work of life, for coöperative effectiveness, and for the use of spare time are the same. Whatever the vocation — whether banker or blacksmith, teacher or farmer, salesman or clergyman, miner or musician, the fundamental needs of health, citizenship, and recreation are the same. To develop as much efficiency and satisfaction as possible in meeting all of these common needs before the period is reached when different needs become so prominent that differentiated school work is required to meet them, is the work of the elementary school.

As children develop individual capacities, as vocational interests make their appeals with more marked differences in response, and as the economic conditions of the home begin to make their influence felt, the wholly unified work of the elementary school must come to a close. This occurs by the time the pupil is approximately twelve years of age, or at about the end of the sixth grade.

Up to this time, if the school work has been a true reflection of life purposes, and the method of work has respected individual differences and adequately

utilized the environment, the unity of the curriculum may be maintained.

The Secondary School. — While the secondary school period continues the work of the elementary school, it should also provide activities meeting the needs of small groups or even of individual students. In general the basis of differentiation in the work of secondary school pupils is in response to differences in interest in the broader fields of human occupation, or in particular phases of the liberal arts to which one may appropriately devote a part of his leisure. The basis of differentiation is thus both vocational and cultural.

The Junior High School. — The junior high school embraces the first three years of the secondary school period. It marks a movement forward from the unified elementary school to the differentiated, departmental plan of the senior high school. It responds to individual differences as needs are shown by providing a choice of one or two subjects from among a considerable number, by each pupil in the first year, and gradually offering increased opportunity for choice through the second and third years. If the work of the elementary school has been made up of activities genuinely reflecting social life, the success and satisfaction with which these respectively are participated in by children are an index of capacity for them. Interests and tendencies to select are strongly influenced by the degree of success which rewards effort

along different lines. Probable success in following lines of work already begun in the elementary school may be fairly predicted. The junior high school provides much greater opportunity for trying one out in activities of individual interest. One of the needs keenly felt by the adolescent pupil is that of exploration in many directions. This very exploration helps him to find himself. He discovers whether the interest in a given line is deep and genuine or merely passing. He finds whether the capacity used in the activity is superlative, average, or but mediocre. He may and should be confronted with problems and aspects of the subject which will reveal its opportunities and lead him to modify and transfer his interest if he finds its extended pursuit would not satisfy him or repay his efforts. At the same time that these differentiated interests are being developed, tested, and evaluated for him he continues interests and activities in common with others and increasingly grows by this participation in meeting the needs represented by the general life purposes of all, enlarging his comprehension of his duties and privileges as citizen in all of the aspects of citizenship.

In general in the junior high school period the subjects from which to select should represent activities identified with the vocational fields — the professional, the industrial, the commercial, or the agricultural — or subjects basic to these. The studies taken in common should be those whose values are still common

— the English, the history, the science, the number, the music, the art, the physical recreation — those used in solving the common problems of life in realizing its common purposes. In the first year of the junior high school the differentiated work may be limited to one course each day. In the third year it may be increased to nearly half of the courses. By the age of fifteen each pupil would be engaged for nearly half of the time in meeting needs which are individually and personally his own. But these activities should all be considered in their relationship to the needs which they serve to meet, and to the inter-relationships of these with other needs. His remaining time is given to meeting needs common to all and appreciated as common by all. There can be in this arrangement no opportunity for the development of isolation, class feeling, or any other undemocratic tendency.

In the junior high school every course offered should be of general educational worth for those having interest in it and capacity for it. Every course should enable those participating in it to have an insight into its place in modern life and an appreciation of the problems, service, and satisfactions of those engaged in it as a vocation. For those selecting given activities as preparatory to entering an occupation each such course should contribute something to their practical efficiency in following the vocation. All knowledge gained should be true, all habits formed

should be correct, and all attitudes should be wholesome.

The Senior High School. — For those who can spend not more than three years beyond the junior high school period in formal educational work, the senior high school should be in a large measure a vocational school. Individual differences and needs should be responded to in the full measure in which they exist. But the very fact that this is the last period of school opportunity for many imposes the necessity for continued attention to those needs which all people share alike. In measures not earlier possible a consciousness of social relationship — of social needs, processes, ideals, and values — may be developed. Through literature, history, economics, sociology, and political science, knowledge and attitudes basic to civic and social life may be deepened and strengthened. Through art, music, literature, and physical play, recreational interests may be cultivated and enlarged. If the specific vocational activities of the student are thus accompanied by genuinely satisfying humanistic experiences to the extent of one fourth or one third of his time in classes with those representing all other occupational interests, he will be more genuinely educated than students who are aroused to no consciousness of social motives or purposes in their high school work.

For those whose high school course is to be followed by more advanced work, all of these general values

should be experienced. Their work should be that basic to the later directly vocational work awaiting them in college or professional school. The science, mathematics, language, and other courses chosen should be selected with specific reference to its values in promoting vocational purposes. As for the students preparing for other than professional vocations they also have an equal need for the liberalizing values of history, literature, social and political science, economics, music, art, and wholesome play. If time and inclination permit, any subject may justifiably be chosen for its recreational interest. But for every activity selected there should be a reason which can be clearly identified with the meeting of some need in realizing one or more of the fundamental purposes of human life. Thus selected, all subjects of study become humanizing and the high schools become more genuinely educative.

The Higher Schools. — The chief emphasis for those beyond the high school period should be upon the knowledge and skill relating to specific occupational activities. These may concentrate very definitely upon the direct and exact knowledge and practice of the occupation, as in law, medicine, engineering, or agriculture, or they may continue, as a part of their work, a further study of other humanizing interests, as health, citizenship, and the use of leisure. The combination of the two lines of work is certainly the more desirable since it produces men and women,

educated in the broadest sense, not alone along lines of their specific vocational interests but as men and women who may serve as civic and social leaders. Continued interests in the appropriate use of spare time are essential for both health and mental perspective. More extended studies in social aims and methods of operation in political life and other forms of group coöperation are highly desirable. Even those under the economic necessity of reaching an efficient earning ability in the shortest possible time will find a more equable division of their time along these lines to be not only advantageous to society as a whole but to themselves as well.

In both the senior high school and the higher period of education, the combination of earning money and attending school on some part-time plan for those not free to give full time to school is much to be encouraged. If the school course is made up of studies relating directly to work in part, and directly to other life interests for the remaining part, the school work and the other activities of the student will each supplement and strengthen the other.

The Curriculum Content in All Schools. — In general character, the standards of measurement for the worth of the content of school curricula are the same for all schools. Briefly, that school work only is justified which bears a vital relationship to some worthy life purpose. In the lowest grades of the elementary school as in the most advanced years of

the college or university, that only is educative which is appreciated for its worth by the pupil or student. If no identity can be appreciated by the pupil or student between the activity which he experiences in school and some life purpose to which it contributes, there is no basis whatever for attributing any life value to the activity. Schools have no basis for existence except that of providing helpful means and experiences in meeting the various needs of life itself.

The Curriculum Problem of the Elementary School. — While the general principles of selection for the content of school experiences are believed to be the same for schools of all grades and kinds, it is the purpose in the chapters following to limit the detailed application of these principles largely to the field of the elementary school — to that period in which the activities are to be the same for all children. The life objectives specifically treated are therefore those which equally concern all people. As we pass upward from the elementary school, the common element in school activities grows less and less as the work responds more and more to individual differences and needs, and as these in turn adapt themselves increasingly to the forms of vocational service in which individuals participate.

The problem for detailed analysis and treatment in selecting the content of the elementary school curriculum is that of first determining the objectives of life in terms of definite needs ; second, finding the

means or forms of activity best adapted to meeting these needs ; and third, presenting these needs with the activities for meeting them, as experiences graded to the natural impulses and abilities, and providing the enlarged environment of place and time to which these locally initiated activities may profitably lead. The immediate environment and interests provide the starting point. But many of these locally initiated problems lead far afield in place and time. Such leads are to be followed as conditions permit in ever enlarging the environment and adding helpful results from the accumulations of race experience.

CHAPTER V

THE EMERGENCE OF THE CURRICULUM FROM LIFE ACTIVITIES

The Activities in Which People Engage and Their Immediate Purposes. — People are engaged in activities which group themselves into forms of occupation for meeting definite kinds of needs. A classification of these needs follows, showing how varied the large general kinds of activity are. It shows also how broad the range of responsibility is upon each individual if he is to make an effective use of their products and if he is to share with intelligent and sympathetic coöperation in the method and control of their pursuit. Each individual is directly engaged by personal participation in several of these activities as a worker and citizen, and each is related to them all as consumer of their service or as beneficiary of the conditions which they establish.

What people are doing may be included broadly in the following forms of activity:

1. Maintaining homes and family life as a satisfying means for rearing children and affording the immediate supply of materials and activities of a small, unified, coöperative group, the most fundamental social unit — the family.

2. Producing raw materials through mining, agriculture, hunting, and fishing.

3. Transforming raw materials through the processes of industry, making them into more usable products — manufacture in all of its forms.

4. Exchanging materials and products through transportation, trade, merchandising and salesmanship — commerce and business with all of the processes of wholesale and retail buying and selling and the adjuncts of these.

5. Rendering personal service — as cooks, maids, waitresses, waiters, janitors, hall attendants, laundresses, and other forms of personal and coöperative aid.

6. Rendering professional service — meeting needs for such kinds of aid as those supplied by the physician, the surgeon, the nurse, the lawyer, the clergyman, the teacher, the librarian, the artist, the scientist, the writer, the dramatist, the entertainer, the musician, or the athlete.

7. Rendering political service — making, interpreting, and enforcing regulative and protective laws and measures needed to secure the equality and freedom of proper individual activity and the effectiveness of coöperative enterprise, local, state, and national — as elective and appointive officers of government, and as citizens determining policies and choosing political representatives.

8. Exchanging ideas by communication — through the publication of periodicals and books, the operation

of telephone and telegraph, correspondence by letter, and discussion in conference.

9. Enjoying recreational activities in spare time — conversing with others, reading, listening to music, contemplating the beauty of form and color in nature and art, attending dramatic or other forms of entertainment, playing games, engaging in sports, traveling, engaging in avocational production, or other forms of activity found satisfying in themselves.

The School's Function in Promoting These Activities. — It is the purpose of the school to render children and young people progressively effective in meeting the various human needs represented by these activities. While no individual participates productively in them all, each has an opportunity to use the products of all or to share in the conditions resulting from them. The problem of developing an efficiency in using these products and in controlling their production to secure justice and fairness to all is the problem of general education. It is this problem that concerns the elementary school. The secondary and the higher schools have to deal in addition directly with differentiated interests. Whatever the specialized form of work by which the individual earns his living, he still requires a great body of knowledge, many habits and attitudes, and many appreciations which are necessary to all. Every individual has needs in common with every other individual represented by this body of common experience and common values. It is

the only common ground which makes coöperation or teamwork possible.

The Tools Used in Making These Activities Effective. — In all of these activities in which people engage, the race has had age-long experience. Through this experience it has found means of meeting needs which are highly effective. In carrying on the various activities many useful tools have been developed. One of the problems of the school is to make clear the value of these tools and to develop a mastery of the tools in actually meeting needs. The tools fundamentally common to all persons and to all purposeful activities are those of communication through reading and writing, and of number for the measurement of quantities and values. Without the mastery of these tools one is handicapped for one's full possible participation in every form of life activity. And yet, important as these are for furthering activities of great value, they have no values in themselves. Only as they are used as tools do they satisfy any of life's genuine needs. Unfortunately one may become possessed of the tools without any adequate appreciation of their use. By the very nature of the human mind, it is broadly true that "we must put together in experience those things which we want to remain together." If the tool is to be used in furthering needful activities in out-of-school life, it must be used in furthering needful activities in school life. Simply, then, the method of teaching reading must include situations in which a need is felt

which can be met by reading, and satisfaction results from the reading to meet the need; so for writing, so for number.

The simple habits or skills of drawing and construction of common value to all as tools follow the same principles of method. And this is also equally true of the specialized vocational or recreational skills of occupations and games or sports. The skill in manipulation is but a means to an end. The skill developed in the use of carpenter's tools is valuable only for the work in carpentry which can be accomplished by using this skill; skill in sewing is of value only as it is used in sewing upon garments or other products requiring skillful sewing. Skill in playing the piano is of use only in producing satisfying music on the piano. The value of the result is the only test for measuring the worth of mastering the tool for securing the result.

The Curriculum Emerges as a Series of Purposeful Activities and the Means for Providing Them. — The school justifies itself in the measure in which it equips individuals to engage in the activities of life with effectiveness and satisfaction. Only as the knowledge, habits and attitudes, and appreciations developed in school are operative in meeting the problems of life are they of any worth. The bonds established are those resulting from experiences in which the elements were appreciated for their usefulness in satisfying needs. In a given life situation, the response which will tend most to be made will be that which has been made with

the most effective results in the same or similar situations in one's past experience. The school curriculum therefore becomes a series of purposeful activities in meeting life needs in the best way. The teacher's problem lies in helping to bring about the feeling of these needs in some orderly arrangement and in so directing the activities that pupils discover and use the most pertinent knowledge and the best methods of procedure. In activities for providing food, shelter, clothing, and other material products, the facts of science, the processes of manipulation, and the methods of measurement will become apparent in their use for providing these materials and products. The facts and processes which we find brought together as nature study, agriculture, industrial arts, geography, and arithmetic will be found to be means for carrying on these activities with efficiency and speed. In activities for group coöperation and regulation, many of the facts and methods of life discussed in civics, history, and literature will be seen to give the results of experience of the race in these pursuits. In finding ways to use spare time with enjoyment and profit, the accumulated race experience in literature, music, art, plays, games, and dances will be appreciated for the aid they give in providing satisfying recreation. In all of these activities the usefulness of reading, writing, number, drawing, and manual dexterity in helping on with them will be so clearly evident that there will be genuine motive for mastering them as tools.

School work thus considered as a sequence of purposeful activities subordinates the mere facts, processes, and methods to the activities which they serve. But it vitally relates the facts and processes to the activities to which they are so essential. It makes their necessity to the activities so evident that the drill work required to make them usable is accomplished with the success of any activity for which the mind is ready, for which a need is felt, and with which there is the satisfaction of a realized purpose.

Purposeful Activities and the School Subjects. — The school subjects are made up of two kinds of material, the accumulated facts or systematized knowledge which has been gained in man's race-long experience, and the mechanical methods and processes by which certain purposeful activities are carried on. Nature study, geography, history, and literature are examples of the accumulated facts of experience. Reading, writing, mathematics, drawing, and music as arts are examples of mechanical processes. But, in the school subjects as usually organized and as commonly taught, the facts and processes are not related to the purposeful endeavors which they help to further in daily life. They are not used in activities which could not be carried on without them. They are separated from situations which normally require their aid. How then can it be expected that a situation will be responded to by the use of a fact or process which was learned in school, but not in relationship to

that situation? No provision was made for establishing any bond between the situation and the appropriate fact or process for meeting it. The facts and the processes of school life and the purposeful activities of out-of-school life are often two unrelated, isolated orders of experience. The arithmetic problems in the schoolroom may be solved with a high percentage of accuracy, while the number problems, relating to store or home, may be met with such incapacity as to result in failure although the technical processes be the same in both. One may read with fluency and ease in school, but read nothing that helps him to meet the needs of daily life experience. One may know much of history as fact, but find no help or guidance in interpreting current happenings from this knowledge of facts. One may know the principles and rules of grammar, but make many errors of language in speaking and writing. Unless the bond is made between the situation and the fact or form or process needed in meeting the situation, there is but small chance that the fact or form or process will appear in response to the need when it arises. The school subjects, therefore, are to be regarded as summaries of facts and methods useful as means in meeting the needs of life as a result of race experience. As represented by text books the facts and processes are usually quite unrelated to the situations in which they have been found useful. Subject matter is not to be abandoned as having no place in school work, but is to be used as a

source of constant help in furthering purposeful activities. It is certainly true that subject matter may be organized and presented through text books in forms helpful as means of furthering educational activities.

The Curriculum and the School Subjects. — That the school subjects and the curriculum are not the same thing is clearly the conclusion that follows from the meaning of the foregoing discussion. The curriculum consists in part of the purposeful activities in which pupils and students engage in meeting the needs of personal and social life. The subjects of study are the means, methods, and records of the experience of the race acquired in meeting such needs, each organized on the basis of the relationships of elements to each other. Arithmetic is the summarized experience of man in dealing with quantitative aspects of his various activities; geography is the summarized experience of man in adapting his activities to earth controls; language and grammar are the summarized experiences in communicating by articulate sounds; writing is the most highly organized device developed for recording experience and communicating by visual symbols; reading is the corresponding device for interpreting the visual symbols used to communicate experiences; and so on, each subject representing the closely related elements of experience dealing with some one aspect of the activities of life.

The Activities of the Curriculum Represent Present Needs, the Subjects of Study the Social Inheritance. —

School work should be made up of the activities growing out of needs and endeavors to satisfy these needs. To profit by the experiences of others, present and past, in meeting these same or very similar needs, we turn to the school subjects and there find the summarized results of their experiences. Just now the need may be to divide one fraction by another. Others have felt this need and have effectively met it. Turning to the text book in arithmetic, the most satisfactory way to meet this need is found. Again the need calls for the sources from which rubber comes. A text book in geography yields the facts. How shall one best grow a plot of potatoes or a bed of asparagus or a flock of chickens? A text book on agriculture will give the methods others have found successful. How shall one explain the different points of view about free trade and protective tariffs in different parts of the United States or how interpret the meaning of references to Mason and Dixon's line or the Declaration of Independence? A text book in American history will give the desired information. How shall one make proper selections from a menu card in a restaurant to secure enough of each kind of food needed by the body at a given time? A text book on foods will contain the facts. And so on, indefinitely, needs might be expressed in every form of human activity and text books might be found to furnish the information or the method of procedure for carrying the activity on to the fulfillment of the need. The curriculum, as purpose-

ful activities, opens the way to the school subjects and makes the worth of their elements apparent. If nothing is considered in the subjects as we usually think of them except in response to some need which they help to meet, there is no possibility of their becoming "dead" or isolated. There is no time wasted upon them in trying to learn that which is of no use, for the only reason for going to them at all is in their having something of immediate value to give. If there are topics in the text books of the school which are never used and the curriculum is broad enough in its activities to include those required in meeting all of the important objectives of present-day life, this, of itself, is the most convincing reason for omitting these useless topics from consideration. There were many means used by the race for accomplishing purposes in the past which had life values at the time, but which have no place in the life of to-day. Neither these activities nor the knowledge and processes resulting from them, have any claim upon our time to-day if they in no way aid in furthering present-day activities. Their value in such cases is historical only. School subjects as represented by text books tend to reflect the present life values of knowledge and processes by what they include and what they omit, but their changes are much slower than the changes in life needs and methods. Naturally the great body of their content is permanent, as the most fundamental values and methods of life change but little from generation to generation.

Neglect of Life Objectives Avoided by Using School Subjects as Checks. — Life may be relatively empty or relatively rich in activities. Individuals may be quite unconscious of many needs which could be satisfied if the needs were felt. One of the purposes of the school is to awaken pupils to a consciousness of needs, to kindle their native impulses into fuller action, to lead them to feel more needs whose satisfaction will enable them to live more completely. By referring the needs expressed and the activities engaged in to the wealth of the race inheritance, it may be determined whether the activities of the pupil include all which he should experience at a given time to represent a fully rounded life. Native tendencies vary so much in the relative force of their expression that the child unaided may engage in narrow fields of activity. One of the very large functions of the teacher is to create the conditions and situations which awaken in a natural way feelings of need for activities which lead on to larger life objectives. The school subjects are suggestive of the needs which their content helps to satisfy.

Activities Often Require Aid from Several Subjects. — In a study of the pottery industry in a small city having several potteries, beginning the study from the standpoint of the geographical reason for the location of these potteries, the children raised questions which led to a somewhat extended study of the pottery industry as a whole. They traced some of the products

of the local potteries to remote markets. They found some clay and various materials for glazes imported from other countries. They traced a carload of clay from the clay bank to the markets to which its products were shipped. They became interested in the kinds and qualities of clay used in pottery. They found the cost of making pottery in the local potteries and secured and computed data showing how important the local industry was financially to the community. In considering the quality and cost of local and other products, they became interested in other pottery districts of the United States, and of other countries, learning much about the finer grades of domestic and imported china. Through some museum examples of Indian pottery, they were led to find out something of the more significant types of American Indian pottery. In noting decorative designs, they considered many forms of historic pottery, learning much about the pottery of the Greeks and of other eastern peoples. They learned of the myth of Grandmother Kaolin, and of some of the great personages connected with the pottery industry, as Palissy and Wedgwood. They read Longfellow's poem, "Keramos," with much appreciation. They spent two or three periods in making some small pieces of pottery and some designs worked out in relief which were cast in molds, illustrating the various methods of making pottery and other clay products. The large purpose of the children was to find out all that they could about the production and

use of pottery. While the work began as geography, it soon included some geology, arithmetic, history, decorative design, industrial art, and even led to the reading of some selections from literature.

This is an illustration of the range of subjects which may be called upon to meet the various problems arising in the pursuit of some single large purpose of study. There is hardly a genuine need in everyday life that is wholly satisfied by the material found in any one of the school subjects. It is only when a life situation is broken up into its minor or special parts that we reach elements limited to a single subject. When elements belonging within a single subject are so taken up, there is great danger that the relationship between the detail in the subject and the life purpose which it serves may be entirely lost. When important life purposes and activities become the basis of study in the school, the various contributing subjects become really appreciated for the aid they respectively give in helping on with the study.

Correlation. — Correlation means a relationship of two or more subjects in helping in an activity for meeting a single need. It can occur only where a purposive activity is furthered by the joint contributions of the two or more subjects. Correlations cannot be *made*. In meeting the needs of a single problem, aspects of the problem often arise which call for the help of material from two or more subjects. In explaining how we are adequately provided with cereal

foods, the full explanation requires some material which we call agriculture, some which we call geography, some which we call history, some which we call arithmetic, and some which we call industrial or household arts. In the sense in which these different kinds of activity contribute to the solution of the single problem we have correlation. Correlations are, therefore, *discovered* and *not made.* If it is the *subjects* that are the bases of study rather than the *activities* to which the subjects contribute, there can be no genuine correlation.

The Making of the Curriculum. — The curriculum as a whole, as has been sketched in outline in the foregoing pages, is on the one hand, the sum total of the activities through which the needs of life are satisfied, arranged in that sequence which fits them to the progressively expanding interests and capacities of pupils. These activities are derived from an analysis of what people are engaged in doing in realizing their life purposes. This analysis means a detailed survey of each kind of life purpose and the means of attaining it. Having arrived at the activities by which the given life purpose is maintained, the problem is then one of arranging these activities in a sequence which will be in harmony with the immediate needs and capacities of pupils in various stages of growth — placing those activities in the first grade which first-grade children can experience with profit and satisfaction in meeting their needs, those in the sixth grade meeting the needs

of sixth-grade children, and so on. On the other hand, parallel with these activities are the results of race experience as organized into subjects. These subjects provide the means for carrying out these activities. This survey of life purposes and activities is a very large and complex problem. It includes the actual finding out of what people do and also the careful weighing of each activity to find its worth in serving some life purpose. Purposes themselves have to be weighed to find whether they really contribute to a richer and more worthy life. In life there is ever the conflict between higher or ideal purposes and lower purposes. Not only those activities in which people are found to engage, but those in which they might and ought to engage, to meet these and other yet unfelt needs, must be included. In the activities connected with providing food, few people have yet included the use of the calorie unit in determining their dietary, in making their food purchases, and in figuring their food costs. From every standpoint connected with the use of food, — health, economy, and citizenship — it is important that they should do this. Needs for information and the processes of using it should, therefore, be included in the activities of the curriculum, and the material accumulated by dietitians and economists made available in a form that is usable at the appropriate time. The results of the work of expert leaders in every field should be made available to the masses through the school.

The Curriculum Can Never Be Finished, but Is Always in Process of Making. — Because of the ever changing forms of activity by which the purposes of life are realized, the curriculum must correspondingly change. As new needs arise, as new methods of meeting needs are developed, the curriculum must respond to all of these changes which are desirable and more effective in meeting life purposes. This includes the dropping from the curriculum of activities no longer of use, or of less value than newer methods. The large, fundamental purposes of life remain ever very much the same, and likewise the methods of realizing them change but slowly in their larger aspects. But local changes in environment, changes in the political, social, and economic relationships of peoples, changes in methods of accomplishing purposes from scientific discoveries and inventions, changes in the ideals of personal and social conduct developed by the vision of poets, artists, musicians, and other prophets, should all be admitted to the curriculum as they are found of value in making life more genuinely satisfying and worthy.

CHAPTER VI

THE PROJECT METHOD AND THE CURRICULUM

What the Project Method Is. — A project is a purposeful activity. Whatever one may purpose and proceed to carry out may be called a project, whether it be in a constructive activity, in investigation of some kind, in developing a skill or method of action, in enjoyment of any kind, or in any other form of purposeful enterprise. The "project method" holds that the desirable and interesting life activities in which children spontaneously engage, or the activities in which they may be led to engage whole-heartedly and enthusiastically should be the basis of all educational endeavor. Having purposes of their own which furnish the "drive" for their activity, they will, if given opportunity, plan and execute whatever is necessary to realize their purposes. They will have to judge their planning and executing as we do normally in life, that is, by the degree in which whatever is done brings about satisfactory results. By the aid of the teacher, the children may be helped to find how and where to secure and use the material and methods which they need in carrying out their purposes. In constructive projects needs for measure-

ment of quantities and values will arise. Arithmetic furnishes the subject matter without which the project cannot go forward. In projects in the enjoyment of stories from books, the needs for reading with rapidity and accuracy in thought-getting will be made apparent. The children themselves will realize a need and feel a purpose for such study of the mechanics of reading as will enable them to read with greater enjoyment. Whatever the activity, the help of the race experience in carrying it forward will become appreciated for its worth. The subject matter will not be learned as a meaningless task but mastered as a step necessary in an enterprise pursued by the children because of their interest in it. The method is in harmony with the laws of learning. Its application would reduce the artificial character of school work to a minimum.

Preceding paragraphs have given the basis for a consideration of the curriculum as made up of projects and the subject matter necessary to carry the projects forward. This chapter is but a continuation of the general thought of the preceding, dealing with certain more direct and detailed aspects of the project method.

The Method of Selecting and Arranging Projects. — There may be three general methods used in selecting and arranging projects. The first of these is that of taking whatever spontaneously expressed purposes come from the children in the order in which they come. This practically leaves selection and arrangement wholly to the children themselves. It assumes

that the expression of interests and capacities is an evidence of normal and healthful needs and development; that the particular forms of expression are stimulated by the social environment and therefore include a direct participation in desirable social activities. Arising out of the inherited tendencies found valuable by race experience, and stimulated and directed by the activities of the very social life of which the child is a part, these freely initiated activities would seem to be exactly those which could and should be encouraged and directed to yield the largest educational values. By this method the freedom of the child is exalted. By its use it is recognized that the way might be devious and often apparently slow in its progression, but since all of its stimulations to activity come out of life situations, every project is an experience in getting at values which most effectively count, and the outcome is a personality highly developed in making adjustments to all the needs of life.

The second method is that of finding the objectives in life which it is desirable to attain, arranging these in an order corresponding as closely as possible to the changing and progressive interests and capacities of children and then finding or planning projects which will include the desirable elements. This method assumes that children *will* take an interest in, and feel a need for, those activities in which they *ought* to feel an interest and need when these are

presented to them. It is recognized by this method that the subject matter to be appreciated for its worth must be gotten in response to a demand for it in a purposive activity. But the activity may be supplied to the child if it does not originate with him. This method differs chiefly from the first in its want of faith in the naturally expressed needs and activities of children to include all important educational elements or to eliminate undesirable factors. It tends to take the subjects of study very much as they are and find or make projects which will include all of their elements.

The third method is that of combining some features of the other two. It encourages fully the spontaneous expression of children. But it keeps life objectives clearly in view and weighs each activity or purpose expressed in terms of its worth in promoting the growth of a worthy life. It selects among the spontaneously expressed tendencies, encouraging, stimulating, and directing some, and ignoring or suppressing others. It recognizes that children often express inherited tendencies which are opposed to the ideals of present social life. It recognizes that those, whose years of experience have developed in them a better sense of values and a sounder judgment than children have, may helpfully supervise their activities without suppressing their spontaneity or curtailing their liberty. It has observed that children tend to spend much time in activities from which there is relatively little gain,

and that, since life is short and the trial and result method of learning may be carried beyond a point which is genuinely economic, much helpfulness in stimulation, selection, and direction of activities may be profitably given by the teacher. This method has faith in the free expression of interest and capacity in children as the source from which all activities must flow, but its advocates also believe that without constant thought of the values of given activities in relationship to large human purposes, many omissions of desirable experience will result and many tendencies may be developed to a degree that is harmful. Projects would therefore use fully the purposes and activities leading on from these into the most desirable experiences in meeting the needs of the full round of human life. Important but less spontaneous activities would be stimulated, partly by the selection and arrangement of environing conditions. Free expression would be used, not indulged.

By the third method of selection and arrangement, the danger of license or anarchy under the first and of autocracy or coercion under the second is avoided. The ideal method is that which would confront the spontaneous expression and tendency to activity of children with conditions of environment which would themselves stimulate and determine the direction, form, and content of projects. The problem is so to arrange the situation in one project that the next will follow from it as the natural and needed step — not

because of the selection of the project by the teacher but because the very conditions of the situation demand it of the children themselves as a need to be satisfied.

To turn the multitudinous interests and activities freely engaged in by children to the best account in the development of health, effective practical activities, civic and social coöperation, and wholesome recreation, projects necessarily have to be weighed from both standpoints — that of the nature and needs of child life and that of the forms and content of activities tested in race experience as best meeting these needs. When children are left rather freely to express themselves in activity without direction there appear strong tendencies to selfishness, discourtesy, disobedience, and other attitudes which are unsocial or anti-social in kind or degree, as well as tendencies to all the desirable attitudes. The corrective influence of the children upon each other alone is not sufficient to develop the information, the habits, the attitudes, and the appreciations needed to give full and adequate control of these tendencies to meet the ideals of the best present-day standards. Much conscious attention is needed in selecting projects and in guiding activities as they go forward to lead children to practice in developing desirable attitudes and to see the reasons why they are desirable.

The Selection of Projects Must Be on the Basis of Relative Values. — In the natural expression of im-

pulses in projects by children, as just noted, very great differences in their value in accomplishing larger life purposes are found. Some are almost wholly without value — they do not lead on in any way to anything further that is worth while. Those activities must be selected which do lead on to further activities of large and persistent value and help must be given by the teacher in bringing about the initiation by the children of those projects which they do not themselves suggest without such help. Desirable interests not appearing at appropriate times must be stimulated and awakened by the teacher. By skillfully leading, the teacher can usually divert the direction of interest and activity from a project of little value to one of much larger value. The interest and activity in dressing a doll may be so directed that they are gradually transferred to projects in clothing which include more advanced investigations and constructions of textiles and garments, including many problems of health, economy, and civic coöperation. To let the project in dressing a doll stop with the mere processes of cutting, fitting, and sewing would mean leaving the activity on its lowest plane without using it to lead on to interests and projects of greater worth. One of the most important problems in making projects of the greatest value educationally is to use those activities freely initiated by the children as avenues to other projects which they will enter upon with just as great zeal and enthusiasm if the way is opened by

the teacher. Interest in foods as part of a project for a tea party may gradually grow into interest in the provision, preparation, and use of foods in daily life; projects in making miniature furniture for a doll's house may give way to projects in finding out about the materials, methods of manufacture, selection for use, qualities of design, and the social problems of production and distribution of furniture as these problems concern the people of to-day; projects in determining the profits or losses on a garden project or a school fair may lead easily into projects of profit and loss, farm accounts, household budgets and accounts, and in methods of bookkeeping and accounting in daily business transactions; projects in telling some experience orally or in written form for the information or pleasure of others may lead into projects in finding out how such experiences have been most effectively told by the masters of prose and poetry; and in every project significant in carrying on some desirable interest and activity there may be found the beginning for other projects progressively leading toward the most worthy purposes of social life. Without making use of one project to stimulate and direct the larger interests to which it may easily lead, projects become isolated fragments rather than steps in a somewhat orderly sequence in progressing to broader and richer experiences by increasingly developing capacity.

As worked out in prospect by the teacher, project units must therefore necessarily be large enough to

include various minor projects or problems, so organized that the children will feel an impelling reason for moving on from problem to problem in the desired direction. The teacher often needs to expand the project in the children's minds by skillfully building up an enlarging conception whose appeal will stimulate the initiating and planning of the various minor problems which make up the whole project unit.

Purposes, Immediate to the Children, Contribute to More Extensive Purposes of the Teacher. — Naturally from its very definition the project has an immediate purpose, a purpose which is realized when the project is finished. But, for its larger educational value, the project is often but one step forward toward another project to which it leads. The immediate project may be but a part of a larger one. In the project of building and furnishing a house for a doll the children are filled with enthusiastic activity in making everything in form and use as nearly an imitation of good home standards and ideals as possible. They notice details at home with new interest and make many discoveries; they may visit other homes, look in at shop windows, and visit shops in investigating furnishings from which suggestions are taken; they may ask questions of many in securing helpful information and suggestion; they may observe adults at work in various processes; they may go to books and magazines to look at pictures which give them aid, or they may, if able, read about house building

or house furnishings. The immediate purpose is the making and furnishing of the house. But the teacher has the additional purpose of acquainting the children with facts about home building and furnishing, methods of selection, and processes of construction that are of lifelong value in the making and upkeep of the home. Each specific project, using history in finding out how an individual character or people accomplished some result, how some event or series of events is explained, and how this interpretation of some event makes clear a condition or form of activity to-day, is but a part of a larger purpose in the mind of the teacher. This larger purpose includes the development of intelligence as to the social purposes and methods of life in general and attitudes of patriotism, loyalty to ideals of service, group as well as individual honesty and responsibility, and other tendencies to right action in the individual and co-operative activities of everyday life. In the projects using material from any and every subject the teacher should keep in mind the large life purposes to which the project is a contribution.

In organizing work on this basis, the great temptation, and danger, is to make a series of projects which are activities in realizing life purposes and to impose these upon the children. They are *not* then *the children's projects* or purposes, but the teacher's. The children may adopt them as their genuine purposes or they may only tolerate them as a part of a system from which

they cannot escape. Only as the projects are genuinely the children's — activities in which they themselves are eager to engage as a means of satisfying felt purposes — will they have any large value. However excellent, then, the series of projects made for the school, giving all possible consideration to both life purposes in the forward look and the condition and environment of the pupils as they are, the allowance must be large for the exercise of variation due to the differences in the projects which any given group of pupils will initiate or which they will enthusiastically make their own when situations are laid to suggest them. The freedom of the teacher to modify, adapt, or substitute must necessarily be large. Any attempt to impose projects for which there is no need felt or appreciated by the pupils, simply for the sake of teaching some unit or topic of contributing subject matter, is little better than teaching the subject matter as purely isolated material.

The Problem of Sequence in the Curriculum. — School subjects and the parts within each subject have been arranged in what has been thought to be the order of the ease in understanding and learning them. The simplest elements are placed in the lowest grades, the more difficult in the later years. As a matter of fact this plan of sequence on the basis of ability has been almost universally violated by placing the difficult parts of reading, writing, and computing in the first years. To be sure, children have the capacity to

master these arts in a very elementary way when very young, but at what cost we do not know. The justification for them when their difficulty is admitted is their very great importance as fundamental tools — as means for carrying on other activities. In developing the control of these tools before children have any purposes calling for their use, the projects in them have to be imposed by teachers and more or less coercion applied in keeping the activities going. Exceptions occur, but this is the general situation.

In a curriculum made upon the basis of purposive activities, the sequence of projects would necessarily have to be in harmony with the unfolding order of interests, impulses, and capacities of children, since real purposes can arise nowhere but in these as they spontaneously express themselves or as they are stimulated and directed. Most certainly this order of natural development and expression of impulses and interests is not parallel with that order of subject matter which would result in a logical organization of it, placing the simplest parts first, then those next in logical order, and so on. While the impulses to act and to be interested in certain kinds of activity are inborn and unfold in an order determined by inheritance, the particular way in which these tendencies express themselves is in response to the environing situations which stimulate them. Primarily these stimulations come from the activities of people observed by children and participated in by them. In

any given project, the subject matter of any subject needed in the project, and for which the child has the capacity should be included. This particular bit of subject matter may be in logical relationship to that which has gone before or it may not. The immediate test of relationship to other elements in the same subject is, are there previous elements usable in connection with this new element in meeting this present need? The problem in sequence of subject matter for the elementary school is, then, not primarily of logical arrangement of parts, but one of an arrangement corresponding to the needs for subject matter and the ability to use it. The sequence of projects, as has been said, grows out of the expression of interests and capacities as these develop and are stimulated by environment, but guided by the selection and arrangement which leads most naturally and effectively toward the increasing realization of larger life purposes.

The sequence of subject matter is therefore determined by the sequence of curriculum activities. In this selection and arrangement of activities, all of the subject matter of significant worth will be included if all of the large life purposes are adequately recognized. Anything which is omitted from the traditional subjects by this selection and arrangement has no claim to inclusion. Any subject matter which serves no purpose whatever in any desirable activity can have no measurable value. Its inclusion would

make no desirable difference in the direction or control of behavior.

School Discipline, and Education by Purposeful Activities. — When children have projects in meeting needs which are actually their own, they are often more active physically and mentally than when memorizing or otherwise studying the material in books. Many of their problems are coöperative or at least common. This calls for exchange of ideas, for individual contributions and often for investigations, experiments, and constructions. In carrying on these activities among children there is usually a tendency toward much confusion, waste in useless activity and talk, and the appearance of rudeness, selfishness, and discourtesy. What is good discipline in coöperative activities calling for discussion, bringing together of the results of individual work, or constructive or other enterprises requiring physical activity? As the quality of behavior is determined by reference to the end to be attained, that behavior is best which brings about the best results in these coöperative activities. Observation and experience both reveal that unnecessary talk and noise from any source, blatant interruptions of one speaking, or any other forms of discourtesy or rudeness interfere with the most effective work in carrying on the activities. Children themselves but slowly realize this. Many adults seem never to have realized it. One of the educational objectives in life is good citizenship, which

includes as one of its largest elements good manners — a sensitive response to the rights of others to a hearing and to consideration equal to that desirable for ourselves. Both the direct and the indirect purposes of such activities therefore require that the teacher should help to make the children conscious of these factors in attaining the ends of coöperative activity and to make the conditions such that they practice mutual non-interference, courtesy, and reasonable quiet. Children respect directive law. But for a brief time it may be necessary for the teacher to appeal to restrictive law, helping to create favorable conditions by suppressing those unresponsive to the group welfare, until the social attitude and habits of the group itself are enough developed to regulate successfully the conduct of its members. Conditions should be maintained which promote the free expression and development of desirable activities. With experience and help children soon develop conscience and capacity to maintain such conditions themselves.

The Project Method Is Opposed to Departmental Teaching in the Elementary School. — Projects in life activities, as frequently illustrated in foregoing pages, often include the use of subject matter from several of the school subjects. Design, construction, industrial and commercial geography, arithmetic, history, and English may all be called upon for aids in such a project as finding out all we wish to know in a fifth or sixth grade about how we are provided with

chinaware we use upon our tables. To carry on such a project by the use of special teachers would be almost impossible. The work could not be broken up on a program basis with just so many minutes devoted to each phase. Even if a time arrangement were possible it would be impossible to unify the work among three or four or five different teachers so that each would use that which the others had helped to develop and at the same time avoid waste. With a single teacher for the group these difficulties are not present. Time adjustments are easily made and there is no loss in moving to one subject or another for aid in forwarding the unified activity to which they all contribute. The work is not of sufficient difficulty to demand the specialist in the elementary school. By definition the work of the elementary school is that in kind and value common for all. It is by no means unreasonable to expect a teacher to be prepared for that breadth and intensity of work representing all of the larger activities of life which it is reasonable to expect children to experience before they are thirteen years of age. Preparation of teachers for this work does mean a change of selection and emphasis, but it does not require anything impossible or unreasonable. It merely asks for the doing of that which is most worth while. As a method of teaching it is not easier than the usual form of work and not nearly so easy as departmental work. But it is far more stimulating, more satisfying, and more effective. Teaching by

the departmental method in the elementary school almost necessarily means teaching isolated subject matter. *There are no life activities in subject matter as such.* Few life activities are so narrow as any single subject. In a school system special supervisors or helping teachers may be of great service to grade or rural teachers in organizing their work, getting materials, and making most usable the environment. But neither special teachers nor supervisors can take the place of the regular teacher in the detailed development of projects made up of genuinely educative participation in life activities.

Practical Considerations in Changing from Present Forms of Curricula. — Current curricula are very largely made up of subject matter without much reference to activities requiring its use. In many cases where references to life activities are made they are drawn upon to *illustrate* the use of the subject matter, rather than to be engaged in by the children as activities which can be carried on only by its use. The change to the project basis can be made but slowly at first. Any organization of purposeful activities including the required subject matter is as yet very far from complete. In making the desirable change, it is important to begin in a relatively small way, accelerating progress as experience is gained. A study of the projects already worked out by some teachers and schools suggests ways of beginning. Any list of projects used in one community or proposed

as a general list must necessarily be adapted to any individual school and community. To follow any such list arbitrarily leads into school work that is arbitrary. The basic test for educative activity is its efficacy in meeting a genuine need. While lists of projects illustrate the general character and form which the work takes, the projects of any given class must be *their* projects. The teaching problem is therefore one of constant alertness in recognizing and discovering needs and adjusting conditions to bring about the activities which meet them with the largest possible degree of growth. Beginnings should be made with projects which offer the largest promise of success. Successful experience and continued endeavor to apply the principles underlying genuine educative activity are the means of increased efficiency in developing the method.

Illustrations of modifications in the organization of content and method by the full application of the project method, and of a more limited application not differing so much from good current school practice are given in the next chapter.

CHAPTER VII

ILLUSTRATIONS OF TWO TYPES OF PROJECT ORGANIZATION

The Plan as Fully Organized on the Project Basis. — To organize the work of a school entirely upon the project basis means very marked changes in its program. While such a complete change may not be made at once, it is worth while to indicate a workable plan to stand as a suggested ideal.

Mrs. Lois Coffey Mossman, instructor in elementary education, Teachers College, Columbia University, has worked out a plan of procedure which seems to meet the conditions of accepted principles. Partial applications of this plan by Miss Marie Henness in the fifth grade of the Horace Mann School of Teachers College in 1919–1920, verify its practicability. The following descriptive outline of the plan indicates its essential elements:

The teacher, who is one of the group, but the recognized leader, must help the children at the beginning of the year to become a true society. They will need to agree that, as a group living together, they will strive to attain certain objectives for the year, among which will be: 1. To increase their individual ability

to live more fully into their community life through getting a better understanding of its interests, ideals, purposes, and organization. These are the sources of the material out of which have grown history, civics, and some aspects of industrial and commercial geography. 2. To learn to use more wisely the products made available to us by the work of men and women in the industrial and commercial arts. 3. To become more efficient and helpful in furthering community activities such as Red Cross work, civic improvement, public health work, library extension, festivals, and other public enterprises. 4. To learn to appreciate more and a greater variety of products in literature, art, and music. 5. To improve their own physical well-being by learning and observing the laws of health. 6. To be of some service to others not of the group. 7. To increase their knowledge, to gain skill, and to cultivate habits and appreciations in such a degree that they will measure up to the standards set by the school authorities for the fifth grade. 8. To have a happy helpful year together made up of a proper balance of work and play.

Having agreed to such objectives, the group should plan a definite procedure which will make such a proposal possible. The daily school program decided upon must be flexible, but it may well break up into periods arranged somewhat as follows:

I. *The Morning Conference Period* of the class and teacher when:

a. The projects under way are reported upon, calling attention to achievements accomplished, to outstanding difficulties, to problems needing to be solved, to needed skills called for, and to the next steps to be taken.

b. Points of interest in community life and current events in the world at large are reported upon.

c. New projects are proposed.

II. *Constructive and Intellectual Project Period* with the problems which arise in carrying these forward. Constructive projects represent not only constructions in wood, paper, clay or other materials, but also the writing of stories, poems, music, or plays, the working out of dramatizations, the planning of entertainments, and any other forms of creative work. Intellectual projects include questions whose answers provide means of knowing and understanding more about the facts and conditions of the natural world and of human life and of the explanations which account for conditions and events. Out of both constructive and intellectual projects, problems arise calling for information from science, geography, mathematics, or history. These problems are solved in this period as they are required by the projects of which they are parts. At times much of the period would be used in study — referring to books or periodicals, making experiments, making excursions, or preparing reports.

III. *Drill Project Period.* — In this period drill upon such mechanical or technical elements, as other

projects have shown needs for, is provided. This includes work in penmanship, spelling, number facts, and processes, the mechanics of reading, language, and music, and occasionally in the manipulation of hand tools, where the sole purpose is the development of skill.

IV. *Recreation Project Period* for the sheer enjoyment of music, literature, art, nature, dancing, or play. The projects may grow out of other projects as related interests or activities, or they may be wholly separate from them, proposed independently in the group conference as new projects. It is a time when the children are to enjoy themselves and usually to share their enjoyment. A part of the time daily may be given to forms of physical recreation activity partly for the sake of its direct health value, but always in a form to be enjoyed.

The following are typical of projects which the children may undertake:

1. To make the schoolroom an attractive place in which to live.

2. To test themselves to see whether they measure up to standards in formal subject matter.

3. To drill themselves upon the processes and skills in which they find deficiencies.

4. To keep individual diaries of the year's work together.

5. To prepare a weekly class paper of the loose-leaf type.

6. To entertain another grade with a Hallowe'en party.

7. To make a Christmas box for a children's orphanage.

8. To keep a daily weather record.

9. To keep a record of the migration of birds.

10. To discuss current events as recorded by newspapers and magazines.

11. To keep a weight-and-height chart, recording each child's measurements for each month.

12. To become able to recognize a given number of phonograph records of good music.

13. To find out how sweet peas mix their colors.

14. To find out what pests interfere with crops in the neighborhood.

15. To tell each other about the good books they have read and liked.

16. To find out why disposal of the Saar Valley was such a difficult question to decide at the Peace Conference.

17. To find out what caused the pot holes in the Lost River Cañon in the White Mountains.

18. To find out some good places to go for next summer's vacation.

19. To make clothing budgets for themselves.

20. To make a week's dietary which complies with the laws of health.

21. To select a picture for the schoolroom.

22. To can some tomatoes from the school garden

to be used for soup making for winter luncheons at school.

23. To find out whether alfalfa will grow better if the soil in the school garden is limed.

Conventional Subject Matter and the Project Organization. — By these three periods for the four kinds of projects, all of the conventional school subjects are included and provided for. Constructive and intellectual projects can be successfully carried forward only by the use of the subject matter of the practical arts, geography, nature study or science, hygiene, mathematics, design, history, music, literature, and physical education as these relate to the interests and activities of everyday life. The needs for the tools represented by the processes of reading, writing, number, spelling, language, drawing, and manipulation will all appear as essential to the progress of the constructive, intellectual, and appreciative projects. Time and opportunity are provided in the drill project period for the full and adequate development of these as needs impel a genuine motive for them. It is evident that any one of these periods may, at times, be divided into two or more periods to take care of the number of questions demanding immediate attention.

Conditions Necessary for a Full Project Organization. — For such an organization of school work, the scholarship and leadership of the teacher must be of a high order. She will have to be under conditions of freedom to accomplish her year's work without any

arbitrary assignments of subject matter by months, and without being bound to any arbitrary sequence in which subject matter must be taken up. She will, of course, be expected to have her children reach those standards set by the state in matters of technical processes and principles for her grade by the end of the year. But she will be perfectly free to secure these in relationship to such projects as most appropriately include them at such times as these most normally arise, and with a flexibility of program that will permit of any needed adjustment.

Since the conditions favorable to the immediate success of such a full project organization are so very rare, most teachers and school systems will probably make the most rapid progress in the direction of such an organization by a gradual but continuous growth. For many years there have been isolated instances of excellent work carried forward on the basis of a partial project method, but with a general organization not greatly different from that of the more progressive elementary schools. An illustration of such work may be helpful as a means of indicating an intermediate stage between conventional school conditions and a full project organization.

Illustrations of an Intermediate Stage in Project Organization. — In the training school of the State Normal School at Macomb, Illinois, Miss Blanche E. Campbell, formerly supervisor of the fifth and sixth grades, conducted work of which she has written a

partial report which illustrates an intermediate stage in project teaching. The general subject matter organization was maintained, but programs were very flexible, and teachers enjoyed much freedom in the arrangement of their work in its parts and relationships. The teachers themselves shared in the making of the curriculum used. They were wholly free to use any projects whatsoever as avenues of approach to the content of the curriculum. The accounts of work in history and geography which follow are extracts from the report written by Miss Campbell for the "Quarterly" of the State Normal School at Macomb, Illinois, issue No. 3, which is out of print.

History — Fifth and Sixth Grades

The history for the fifth and sixth grades outlined by our present course of study embraces ancient history from the conquest of Greece by Rome to the overthrow of the Roman Empire by the Germans; the entire historical movement of the middle ages; the period of discovery and exploration in the new world; a study of Jamestown, New York, and Plymouth as typical colonies; and, in conclusion, the history of our own state of Illinois.

This completes the survey of the world history in the elementary school and provides the setting for the usual intensive study of United States history in the seventh and eighth grades.

At first we seem to be overwhelmed by the enormity of this material and we wonder what children in these grades can gather from such a mass of historical facts. It is only when we remember that we are to study the past for those elements which enter into and influence the complex life of to-day that we are encouraged to make even a beginning.

By a study of the great epochs of social advance, we must see how society has assumed its present form and what are the discoveries, inventions, conquests, and new ways of living which have assisted in the development of the institutions which constitute the social life of to-day. We must sift out and emphasize those progressive agencies of the past which can be seen in relation to the present and as enlarged elements of the existing social structure.

It is the aim here to indicate some of the opportunities for teaching the main factors in the advance of society which are contained in this material, and to show that much of the work in literature, language, and industrial arts, together with some of the music, are closely related to the same.

In the case of the industrial arts it will be noted that much of the work is of the interpretative or illustrative type, leaving but little time for the formal and technical work of the shop. So many opportunities for illustrative work have been found that it has not been possible to carry them all out, and it has been necessary to select those things most vitally related to the structure and workings of society, and hence of most value to the child.

An examination of the subject matter will show that three out of the four great forces which have affected our present-day civilization, are to be considered during these two school years. Greece with its contributions of art, literature, science, and philosophy has become a reality through the work of the previous grade, and it now remains for these grades to see how Rome provided ideas of unity and of a world-embracing empire which influenced men all through the middle ages; to see how the Roman law has permeated all law even to the present time; to see how Christianity with its ideas of individual worth and responsibility to moral law, rather than to the law of the state, resulted in a general elevation of religious thought; and to see how the Teutonic peoples, young and vigorous, brought new

life and blood to the decaying empire and laid the foundation of certain political and institutional changes which can be traced in Anglo-Saxon forms of government to the present.

In addition to the great influence exerted upon civilization by these forces, we must note the rise during the middle ages of three other important institutions — the Church, the empire of Charlemagne, and the Feudal System.

We are enabled to trace the growth of the Christian Church to a position of unparalleled influence and power, first through the simple elevation of the church at Rome to a position of authority, and later through imitation of the government of the Roman Empire. We see how the church became the unifying agency during the dark ages, carrying the old civilization to the German barbarians; how the monastic orders rose and preserved the learning of the middle ages; how Pipin's gift of the territory of the Lombards laid the foundation of the temporal power of the Pope; how during the Hundred Years' War the power of the Pope was shaken over the question of taxation; and how Luther in the Reformation completed the revolution against the early Church.

In Charlemagne's Empire we see the idea of the unity of the Roman Empire existing for but a generation and yet long enough to preserve that idea of unity as an ideal to the nations through the middle ages. Moreover the first faint beginnings of the modern nations are to be seen in the events after the disintegration of this empire.

The opposite of all this unity is seen in the Feudal System where separate and isolated governments rise with new institutions and new legal principles which perhaps influence the land laws of the United States to-day. The ideals of chivalry which permeate all literature and which may be taught to the children to-day can be traced back to the arming of the young warrior and to his going forth with thoughts of bravery, truth, and respect for womanhood. Even yet we cannot stop. Other and

important influences come to us through the ages and must be reckoned with. Some of these are enumerated in the following:

From the study of the Northmen we learn the myths of the religion which was believed by our ancestors. We compare it with the religion of the Greeks and Romans, but we find it more interesting because of its place in the lives of our ancestry. We also trace the origin of the names of the days of the week. We see these Northmen settling on the coast of France and later conquering England and providing elements to make a new and stronger nation.

We trace the wresting of the Magna Charta from King John and the growth of the power of Parliament from the little beginning in the village meeting of the ancient Germans through the work of Simon de Montfort to the concessions granted by Edward III during the Hundred Years' War.

In the Crusades we see the rousing of Western Europe and the beginning of the influences which led to the Renaissance. We see commerce first affected by the new movement and we review the growth of commerce from the influence of the good roads of the Roman Empire to a time when water provides the chief route and a Columbus goes forth on unknown seas.

Many economic questions may be taken up in sequence, such as the bridge and road making of the Romans; the development of methods of agriculture, navigation, and manufacturing; and the growth of cities during the middle ages.

We trace the making of the book from the manuscript book of the monk through block printing to the movable type and the invention of printing.

The linked mail hauberk of the Norman knight gives place to the armor of metal plates in the fourteenth century, and with the introduction of gunpowder the knight is overthrown and the individual soldier takes his place while the methods of warfare are revolutionized.

During the long period covered by the subject matter of these

grades we have the wonderful story of the art of architecture from the Roman style of building so largely borrowed from the Greeks, to the Renaissance reviving the classic. We must also include the Mohammedan architecture brought into Spain by the Saracens, the Romanesque carried by the Normans into England, and the rise of the Gothic with its wonderful cathedrals.

Angelo, Raphael, and Da Vinci are types of Renaissance art; the Bayeux tapestry is a type of the art textiles; and with the Gothic architecture we have the wonderful stained glass of the thirteenth to sixteenth centuries.

The period of chivalry provides us with troubadours, minnesingers, and minstrels; the Reformation with the chant and Luther's hymn; the Nibelungenlied in connection with the Franks brings us the opera "Siegfried," and the Holy Grail stories bring us the opera "Parsifal."

Such are some of the leading sequences of thought portraying the workings of great agencies of civilization which are contained in the history for the fifth and sixth grades. These must exist as a whole in the mind of the teacher. She must see the end from the beginning and the value of each topic to a great related whole, but the child is to be concerned only with concrete situations, definite problems, and moral judgments.

Perhaps an illustration will make this meaning clearer. The study of the monk belongs to the history of the fifth grade. In addition to the usual classroom teaching, the children made last year illuminated texts, dressed a sheepskin for parchment, made quill pens, and made ink out of pigment and soot and gum.

In the sixth grade this year the same class studied printing. The children made specimens of block printing, using their own initials, and they visited a local printing office where they saw movable type and also the linotype in operation. By the aid of Copley prints of the series of six pictures, "The Making of a

Book," by John W. Alexander in the Congressional Library, we were able to present the story of the book from the cairn to its present form. At this point these pupils were ready to summarize in an intelligent way the development of the art of bookmaking.

During the study of Rome, the children constructed on the sand table a model of the city. The seven hills, the Tiber, the walls, roads, baths, aqueducts, Cloaca Maxima, and Forum all had their places in paper, cardboard, or clay. In many instances reproductions were not attempted but locations were made and good pictures studied that as far as possible the city might become a reality. A map of the city was made by each child after the completion of the sand table model.

Subjects chosen for especial study were the Colosseum, Pantheon, Baths of Caracalla, and the Laocoön group, Arch of Titus, and the Forum. Thus a comparison with Greek architecture was made and the typical Roman features were noted, including the arch, engaged column, and the characteristic scroll and acanthus decoration. Road making was studied in detail. A waxen tablet and stylus were made to the great pleasure of the pupils.

About this time "Horatius at the Bridge," and "Stories from Virgil," by Church, "Story of the Æneid," by Brooks, "Last Days of Pompeii," and "Ben Hur" were brought to the attention of the class and read by a few of the most advanced members.

Interest was aroused by an imaginary trip to Rome, utilizing advertising matter, and the children were glad to express themselves in language work on such topics as "What I would see in the city of Rome," and "What I would like best to see." The origin of the names of the months was also taken up and in arithmetic the subject of Roman notation was studied.

When the children had an opportunity to select a picture for the room, "The Chariot Race," by Wagner, was the one chosen.

After the study of the invasion of Rome by the Germans, a dramatization of the leading events took place without costuming and with yardsticks and pointers for weapons, but the imagination of the children filled all gaps. The raid of the Huns, the appeal of the Goths, and the crossing of the Danube were very realistic, and not less so the perfidy of the Roman officers and the battle of Adrianople.

In connection with the study of the Northmen, the literature lessons were drawn from the Norse myths, and the story of Baldur furnished the basis for a written dramatization which was enacted by the members of the class. A paper-cutting lesson on the shape of the Viking ship was given. On the sand table, the route of the Northmen from the fiords of Norway to the shores of North America, using the islands as stepping stones, was traced, and the reading of "The Skeleton in Armor" constituted a summary of this study.

With the advance of the Mohammedans into Spain we studied the architecture of the Alhambra with its wonderful tracery of ornament.

The story of Roland was read by the children in connection with the study of Charlemagne, and at the crowning of the latter by the Pope the class hotly debated the question as to which had the more power. Thus they received a larger conception of the growing power of the church.

Much of the interest of medieval life centers around the castle, so the children, working in common, produced a model of clay which possessed all the essential features of a typical castle. For use in dramatization of the ceremony of knighthood a suit of armor was constructed with hauberk, helmet, shield, sword, and spear. In this a long-sleeved undervest, the crown of a hat, and silver-colored paper were used. The result was surprisingly realistic. The fifth grade read at this time part of the "King Arthur Stories," retold by Church, and "Don Quixote," retold by Parry, was also used. In the sixth grade

"Ivanhoe," by Scott, "Coming of Arthur." and "Passing of Arthur," by Tennyson, and "Vision of Sir Launfal," by Lowell, were read.

As a type of the Romanesque architecture introduced into England by the Normans, the White Tower, now part of the Tower of London, was studied. The union of the Norman-French and Anglo-Saxon languages introduced many words of like meaning and different form, and we taught the synonym to the children in the language period. "The Battle of Hastings" from Dickens and "Beowulf" from the old English furnished literature at this time, while "Canterbury Tales," in the hands of the teacher, followed the study of Thomas à Becket in history.

The rise of the Gothic style of architecture turns our attention to the era of cathedral building. Four cathedrals seem typical and worthy of careful study: Amiens in France, Salisbury and Westminster in England, and Cologne in Germany. The principles of Gothic architecture were studied, and stained-glass windows received especial attention.

Some windows in imitation of stained glass were constructed out of cardboard and tissue paper. They were very pleasing and occasionally deceived the unwary into believing them real. Some of these were placed in windows at the homes of the children, one in a transom at school, and a community window was placed in the auditorium. Before beginning the work a church having beautiful windows was visited and designs were worked out in water colors. For further instruction a second church was visited and the interest was noticeably greater. As an extension of this subject, the children should study a few examples of each of the three great epochs of stained-glass making.

Renaissance architecture offers us the cathedrals of St. Paul's in London and St. Peter's in Rome as especially worthy of our attention. Much time was also spent in the study of our own building which is ornate with Renaissance decoration.

In studying the three colonies selected as typical of the era

of settlement in the new world, the sand table was called to aid in portraying the location of each colony. In the case of the Dutch of New York the settlement itself was well worked out with little Dutch houses of paper, blockhouse, windmills, stockade, Bowery Lane, and Governor Stuyvesant's house, and even the gallows and the whipping post. "The Legend of Sleepy Hollow" and "Rip Van Winkle" were used as class work in literature. In connection with the Plymouth colony a Puritan luncheon was served by the members of the class as a summary of previous lessons, consisting of baked beans, brown bread, hominy, and Indian pudding.

That we might appropriately use the pewter candlesticks, candles were made for the occasion. Some were dipped and others were made in molds. Invitations in quaint old English were issued for this luncheon and necessitated careful examination of Governor Bradford's "History of Plymouth" for style. For information regarding details of the table and food, the children read parts of Alice Morse Earle's "Home Life in Colonial Days."

The study of the history of Illinois was taken up in the last twelve weeks of the school year. It began with Joliet and Marquette and ended with Illinois in the Civil War. It represented an opportunity for a closer view of pioneer life, and a schoolhouse of the early kind was constructed. It was made of logs with a puncheon floor and outside chimney. The seats were of puncheon, and the chinks were filled with clay.

The method of surveying and laying out of public lands was taken up in arithmetic to account for the regular form of the surrounding farms and as related to the settlement of the state.

No doubt sufficient detail has been given to indicate the possibilities which this subject offers, and we end as we began with the proposition that history should show the relation of the life of the past to the present, and that much of the literature, language, music, and industrial arts are related to it.

Geography and Nature Study — Fifth and Sixth Grades

In accord with the spirit of the four lower grades, the work of the fifth and sixth grades rests upon the principle that it is the province of the school to enable the child to live more fully into the industrial and institutional life of which he is a part.

The starting point in the subject matter for these studies is to be found in the activities of the people about us, while the child himself furnishes the clew to the method of studying the essentials of the industries which form the foundation of civilized life.

Only a beginning in this work has been made, as the following details will show. It has been made, however, with the belief that in no other way can the child be led so well to a broad outlook on the industrial and economic situation; to a sympathetic interest in the life of the workman; to a clearer understanding of the forces and machinery which have been utilized in the development of the industries; and to his dependence upon society as a whole and his responsibility to it.

Only a few intensive studies can be made, but in them the whole child is interested, and varying aspects of the topic are emphasized in the different subjects. It has been found that geography, nature study, and arithmetic form a closely related whole in studies like these, and each formal subject has its due consideration, although the great topic is generally the same throughout. The continents of North America, South America, and Europe, in the order named, have been assigned by the course of study to these grades. In the study of North America, the work naturally began with the home industries and the geographic controls of these industries. Ideas of slightly rolling land such as exists in the child's environment were extended until a concept of the Great Central Plain was built up. Experiences of several children who had visited the Rocky Mountains were utilized, and limits were placed to the extent of this

plain. To increase the clearness of the impression, the numerical side of the matter was taken up in the arithmetic period and an imaginary trip was made by the class to see the wonders of the Rockies at Denver. All aids, such as relief maps, sand tables, and chalk modeling maps, were, of course, used in this and all other work of like nature.

The question of how far the agricultural activities so familiar in the environment of Macomb can be carried on in the Great Central Plain was answered by a thoughtful study of the general conditions of heat and moisture which are necessary to agriculture.

That the children might realize in a practical way what effect was produced by the revolution of the earth and the inclination of the axis, a skiameter was used and the varying length of illumination noted. This, coupled with facts regarding the length of the day, gave the clew to the amount of heat to be found in any region and was directly related to the problem in hand. One very important point only remained for consideration — that of moisture — and once more the local conditions provided the starting point. A very simple rain gauge, a cubical copper box, was used to measure the rainfall. For young pupils, this is better than the regular government rain gauge though they should see the latter after the essential ideas are well established.

After a good rain — in our case three fourths of an inch — the rainfall was measured and the quantity of water falling upon one square yard was computed — $4\frac{16}{77}$ gallons — and a like amount was actually poured upon a square yard of ground. This served as a basis for all future interpretation of rainfall data. Calculations were extended to the amount of water falling upon a square rod, acre, and the campus of sixty acres.

Interest in rainfall having been established, the time seemed opportune for the introduction of the barometer that weather might be forecast. By a series of simple experiments performed by the children at home, the fact of the pressure of air was es-

tablished. That the pressure might be measured, a simple barometer was constructed. A glass tube about thirty-two inches in length was filled with mercury and inverted in a cup of the same liquid. It was then supported in an upright position. For some days the height of this column of mercury was measured and the character of the weather noted. When sufficient data had been collected, the children made the generalizations that high or rising barometer means fair weather while low or falling means foul weather.

The next step consisted in the transfer of these ideas to the reading of the weather map which had been secured and examined all this time by the children but without explanation from the teacher. Now, after watching the changing in the barometer, they were delighted to be able to interpret the "highs" and "lows" over which they had puzzled.

So far, only notions of the amount of water falling in one rain had been obtained by the class, and we now passed to the question of the annual rainfall. Eight miles distant is a subweather station where the rainfall data are kept, and the records for 1905, 1906, and 1907 were obtained and compared with the rainfall maps in the geographies in the hands of the children. As rainfall data are always recorded in decimal form, this provided an excellent motive for the introduction of decimals in the fifth grade.

Having now a broad knowledge of the conditions of soil, heat, and moisture which exist in the Great Plain, the pupils can understand why the long days enable the wheat to grow so far north, why cotton cannot be grown profitably north of Tennessee and Missouri, and why few crops can be raised profitably west of the one hundredth meridian under natural conditions.

All this had taken several weeks and had been carried on part of the time as geography, part of the time as nature study, and part of the time under the name of arithmetic, but it is believed that future results will justify this expenditure of time and effort,

for underlying it all is a consistent purpose to organize these parts into a large, related whole which shall constitute the basis of all future study of agriculture.

Of the many agricultural products which might be studied intensively a few only were selected. Wheat was used as a typical cereal. In addition to the usual facts of growth and production, the manufacture of wheat into flour and its distribution to the markets of the United States and foreign countries were considered. Minneapolis was studied in detail as a typical milling center, and other wheat centers, such as Kansas City, St. Louis, Indianapolis, and Buffalo, were developed. Water routes were traced to points of export, involving a study of the "Soo," Welland, and Erie canals, and of the natural advantages for commerce possessed by New York City. The Mississippi River route and the importance of New Orleans were reasoned out first and later verified by reference to the geographies. The rail routes leading to the export of wheat from Boston and Baltimore were traced, and folders obtained from the local station agent to demonstrate these routes.

The food value of wheat was taken up and the iodine test for starch was applied; the flour washed to show the presence of gluten; the relation of yeast to light bread because of the presence of carbon dioxide was demonstrated by experiments with yeast and limewater; and last of all, bread was made by the class and eaten later at luncheon.

In the study of corn, the local grist mill was visited and the making of corn into meal was observed. The coincidence of the corn-growing and hog-raising sections of the United States was shown by maps of the government census reports. The reason for this was found in the great proportion of fat contained in the corn, while questions as to the profit in feeding corn to hogs arose and had to be answered later in arithmetic. The use of corn in the manufacture of starch, sirup, and distilled liquors was taken up, as well as the study of routes of trade and export.

The great difference in the quantities of wheat and corn exported was noted and explained. In nature study, comparisons were instituted between the sources of food for the germination of wheat and corn and that for the squash and bean which had been studied in a previous grade.

By the aid of the school garden, cotton and flax were grown, though the bolls of the cotton did not fully mature, thus teaching the lesson that our season is too short to produce cotton profitably. The flax matured and was pulled, rippled, retted, scutched, and hackled by the class with the aid of rough implements made by themselves after consideration of the needs. A small quantity of the fiber was made ready for spinning.

Last summer when the osage orange hedges, so numerous in this section, were in full leaf, silkworms were raised, eight hundred perfect cocoons being secured. Thus, in these two grades, the children have become familiar with cotton, flax, and silk, three of the four great textiles. Wool was studied in preceding grades.

This year, the garden work of the fifth grade has centered about transplanting. A hot bed was made by the children, and cabbage, tomato, cauliflower, and pepper plants were grown and transplanted to the garden. These were utilized in the cookery work of the fall term. Tomatoes were canned and later made into soup for noon luncheons. Chowder was also made and used at luncheons. Early in the spring, a large radish bed was planted in the school garden as a community project, and radishes were served at the noon luncheon from this source. Later the ground was planted with pop corn for use in fall and winter festivals.

The previous study of rainfall prepared the way for the interpretation of "0 to 10 inches of rainfall" of the Great Plateau and the consequent need for irrigation. *Harper's Magazine*, Volume 108, contains a story, "The Tie of Partnership," which has been used in this connection to deepen the impression of a waterless land. In response to advertisements, members of the class wrote

letters to various "Water Users' Associations" and received much valuable information regarding irrigation projects, terms on which water is furnished, and the kinds of crops to be raised. The government reports of the Reclamation Service were also a great aid in locating the reservoirs and in giving details.

When the rainfall of the Great Plains was studied with a view to determining which portions were suitable for agriculture, the western limit was placed at 100 degrees west longitude because beyond that was not sufficient moisture to make agriculture possible. When we began the study of stock raising, this fact enabled us to locate at once the great grazing region. In our community the relation of this region to the needs of the people is unusually clear. Twice each week a refrigerator car packed at Kansas City is opened here for the first time, and this provides the starting point for many interesting lines of thought. Early in the study, a refrigerator car was visited and the excursion did much to bind together the work of the school and the needs of adult society which are so interesting to the child.

In taking up the sheep-raising industry, once more we referred to and depended upon our new knowledge of rainfall conditions to help us solve the problem. Sheep can eat grass more closely than cattle can, hence in the mountainous regions where there are less rainfall and less grass, we find the great wool-producing states. The various phases of the industry — ranch life, shipping, and the packing house — were taught, and especial note was made of the exports to foreign countries. The hides and wool were traced to their points of manufacture, and the relation of this great industry to the growth and prosperity of the New England cities was well understood. Even here we could not stop, as the need for leather and wool is greater than the supply, and the source of the remaining leather and wool had to be found in countries possessing grazing regions like our own.

A simple study of the portions of a beef best suited for food was made, and beef was cooked for soup and for eating so that

the different methods might be seen. Later, this food was served with the noon luncheon. The numerical side of this was made a subject of study in arithmetic.

The foundation for the study of the lumbering industry was laid in the fall when the amount of twig growth of the various trees of the campus was made the subject of lessons in nature study. Hickory, oak, maple, willow, and walnut branches were examined to determine the growth for the last year and also for the several previous years. The average growth per year for five years was obtained. This work dealt with fractions and constituted an excellent introduction to operations with mixed numbers. By means of scales, the relative strength of these woods was tested and the generalization was made that slow-growing woods are much stronger than rapid-growing woods, hence the terms hard and soft woods. This, of course, was directly related to the wood work of the shop.

As the beginning of the study of lumbering, the woods in use in buildings and furniture about us were considered and the probable sources determined. After locating the great forest regions and deciding the probable sources of the material, the class visited the lumber yard to verify their inferences. Here a real surprise awaited them. After fully deciding that no lumber would be brought from the Pacific forest region, owing to the distance, redwood shingles from Washington were found in common use.

In addition to lumber for building purposes, the manufacture of furniture was taken up, beginning with the local dealers and the source of their supplies.

The necessity for the forest reserve was next studied and the life of the forest ranger noted. Here the Big Trees of California received some attention, and in connection the relation of the circumference to the diameter of a circle was taught in arithmetic, because, in general, the diameter only of these trees is given and this does not convey much idea of the real size to a

child. When the circumference of a typical tree was found, a string of the same length was held out by the children in a circle in order to make the size real and full of meaning.

The study of coal and iron proceeded directly from the environment, as Macomb is near excellent bituminous coal-producing measures, and has a foundry where the metal parts of school desks and opera chairs are manufactured. After the pupils had been prepared for it, the foundry was visited when the cupola was in operation and the molding could be seen. Here we found a meeting of the lumbering and iron manufacturing interests, as the wood for these seats is shipped from lumber centers to join the iron frames at the point needed.

The making of coke did not seem clear to the class, so the process was carried out for demonstration in a very small way. Bits of bituminous coal were placed in a test tube and held over a flame. As gas was drawn off, it was ignited, and the substance which remained was a kind of coke.

Commerce and manufacture are constantly entering into the problems taken up. The causes which contribute to the growth of a great center are brought to the minds of the children as opportunity offers. Toward the end of the year, a conscious effort is made to emphasize the main features of transportation by a study of local express and freight business. The postal business in its various phases was studied just before Christmas, as packages, money-orders, and registered letters entered into the interests of this period. The express and freight transportation take care of large articles and relate directly to the industrial life of the community.

South America and Europe were considered in the same way with constant attention to the dependence of the industrial and political interests upon the physiographic features of these continents and to the relation of the countries of these continents to the United States.

With the study of South America, the world's wind system was carefully developed and the principles were then used in working out the climate of Europe. Experience has demonstrated the importance of giving here to the sixth grade a working knowledge of the controls of climate which will serve them later in interpreting the climate of any region.

In the latter part of the sixth grade, the change of seasons was made the subject of intensive study. Here the facts gathered from the skiameter and from observation of the apparent change in the position of the sun were brought together.

Probably the foregoing details suffice to show that the consistent study of the industries will lead out along many lines of social interest, and while furnishing thoughtful, valuable subject matter for geography, nature study, and arithmetic, will constitute a large related whole.

The Spirit and Qualities Necessary for Progress. — These illustrations emphasize the needs for studiousness and scholarship, and for a spirit of freedom from traditional method of routine. At all points in the work the teacher was alert for the expressions of interest in the children and thoughtful of the direction which she might give to these interests to lead them into contact with new experiences and subject matter of rich personal and social value. That the curriculum was organized in terms of the common subjects of study did not handicap her in any large degree because she had freedom to arrange the various elements in relationship to the needs for them as these needs appeared in projects, and to adapt her program in any way necessary to carry on these projects effectively. The curriculum indicated the general fields of content for which she was

to be held responsible for the year in each grade. She accepted the responsibility and much more than lived up to it by her stimulation and direction of the children's interests and capacities into activities affording a wealth of experience of vital relationship to the life of which they were a part. While the accounts say little of the tool subjects, these were by no means neglected. Needs were revealed by the kinds of study, report, and discussion required in the projects for definite attention to silent and oral reading, to spelling, to writing, to number, to drawing, and to design. But these matters of necessary drill were taken up with readiness and effectiveness because their worth was immediately apparent, and the time required for drill to secure needed efficiency was thereby much reduced.

The full project organization is a desirable end toward which to work, but far-reaching advances may be made in the richness and quality of school work while the gradual change from the present organization is under way. Flexibility in programs, a greater wealth of subject matter related to life situations and problems, and freedom for the teacher to work as her conscience dictates, in a thoroughly professional spirit, are the essential conditions for any marked progress in making the curriculum a more vital and workable factor in developing teaching by projects.

CHAPTER VIII

HOW THE AIMS OF LIFE ARE PROMOTED BY THE RESPECTIVE KINDS OF SUBJECT MATTER

As Organized, Subjects of Study Are Very Highly Specialized. — The subjects of study in the elementary and secondary school have been developed to a point of very high specialization and narrowness. This has resulted in so many studies that there is not time enough to get them all into the program without making it absurdly fragmentary and crowded. It is not at all uncommon to find children studying as many as twelve or thirteen subjects at one time. The larger the number of subjects the greater is the tendency to narrow each of them, and the narrower they become the less related they are to the activities which require their use. In an endeavor to make elementary education embrace all subject matter that might be of value to life, a dozen or more of the special kinds of such matter have been detached and organized into separate studies. In programs made up of such studies, the child passes from one to another, devoting a few minutes to assigned tasks in each, but at very few points finding the value of the particular subject matter in meeting daily needs.

Many of the problems of life, many of the projects which children have or would have if directed, require the use of subject matter from a number of these different specialized subjects. Nature study, geography, industrial art, history, and number are all called upon to make their contributions in the project, "How we provide ourselves with meat as food," for a fifth or sixth grade. In life activities themselves, no "subject" stands out alone. It appears only in relationship to some purpose which it helps along. In most life purposes several "subjects" make their contributions. Until the procedure in school becomes typical of the procedure in life outside of school, the experiences of the school can affect conduct outside of school relatively little.

Combining Subject Matter Related to Common Kinds of Projects Is Desirable. — Even without the full development of the project method it is possible to reduce the number of subjects of study to great advantage and without loss of content. By including under the general term, practical arts, all that is now found under the economic aspects of nature study, industrial arts, household arts, industrial drawing and design, and much of hygiene, commercial and industrial geography, and history, we would bring together subject matter which belongs together and which could be arranged for study at a great saving of time and effort. In close relationship to this field is that of number, which, because of the necessity for much

training in mastering its processes, requires provision of time for practice. History and geography have aspects not covered fully by the industrial relationships. One or the other of these is needed throughout the years of the elementary school, but not always both at the same time. The two are often closely related. Some aspects of both are always closely related to the larger problems in the practical arts. Both are often related to studies in literature. English in some form should be in every year's work as reading, penmanship, spelling, composition, or literature. Needs occasionally demand that two or three of these appear on the same program for a time. But the relationships of English to all other subjects are so close that the development of each of them affords the chief opportunities for improving one's speaking and writing and much of the content for one's reading. Music requires the provision of special time, although the relationship of its content is close to other subjects at many points. The phases of fine art not included by industrial usage, and of economic nature study require attention at times separate from the other subjects. For both health and recreation, time is needed to engage in plays, games, sports, and other physical activities usually found under the term physical education. But even here, relationships to English, history, music, and the practical arts are often close. Some folk plays and dances are most effectively developed in direct connection with these subjects. Problems in personal hy-

giene, not taken up as parts of the work in practical arts, may be included under physical education.

This reduces the number of subjects to seven or eight at most, and suggests that at times the number might be but four or five. Such an organization does not permit of the full educational values of an organization on the basis of projects, but it does indicate progress over the more highly specialized separation of subjects. This bringing together of separated subjects cannot be accomplished without considering the general or particular problems to which the several parts have a common relationship.

A Common Error in Organizing Subjects in "Correlation." — Thinking chiefly on the basis of subjects alone, even as reduced in number, it is not uncommon to find several of them developed in connection with some particular material or topic rather than in connection with a project. The study of milk is sometimes so conducted as to illustrate this error in organization. Children are assigned the study of cows and the production of milk as lessons in nature study or elementary agriculture; the study of the sale and transportation of milk from the farmer to the creamery or city market or factory, as commercial and industrial geography; of the making of cheese, condensed milk, or malted milk, as industrial arts; of the care of milk and its values and forms as a food, as household economics; and of the costs of production, transportation, manufacture, and use, as arithmetic. But have these

subjects — nature study, geography, industrial arts, household arts, and arithmetic — been studied in relationship to each other? Rather are they not clearly studied in relationship to milk — to one thing used as a common point of departure? The organization here is not one of bonds between subjects, but bonds between a topic and several subjects used in connection with that topic. Except in the teacher's mind there is not necessarily any project involved here. The studies were assigned by the teacher. The topic as indicated might be studied in all of these several aspects without the children's realizing in any large degree their worth in relationship to themselves. The needed further step to give the whole study its maximum of value is that of initiating it as the children's own problem. Considering the increasing cost of milk would soon involve the large question, how are our needs for milk and milk products supplied? The large project would break up into a number of smaller projects or problems — the sources of milk, its transportation, its manufacture into products, its care, its preparation for food in various forms in the home, its food values, and its cost. To carry out these several minor projects the respective subjects noted would be called upon. Now, the bonds of relationship would be, not between a *topic* and the subjects, but between a need felt by the children and the subject which helped to meet the need in understanding a closely related series of life activities fundamentally important to

them. Even the subjects, as such, would scarcely be linked to the activities of the project in the minds of the children, but rather the specific *subject matter* for which they found use. Whatever value there may be in genuine correlation lies in the unity between an activity and the subjects which, together, serve it. The bonds are not between one subject and another, but between each subject and the common purpose to which all contribute.

The Respective Subjects as Related to the Larger Life Purposes. — All of the school subjects have grown out of life activities in which their use was apparent. But the separation of their matter from situations requiring its use has become so great that it may be helpful to work backward from the subjects to their uses. If carried out in detail, much would be found in the subjects as now organized that is not used in present-day life. No such detailed analysis will here be attempted, but only a general summary of the forms of usage served by each subject. To provide for eliminations and additions corresponding to present life needs, the more consistent method is to include that subject matter called for by the projects in life activities themselves.

The subjects by name as here outlined are those in current usage. That a smaller number may readily result by combining those serving purposes of a common kind should be apparent from a consideration of their uses. In preceding pages certain combinations were noted as possible.

Nature Study. — The direct needs of life to which nature study contributes are of three kinds, economic, hygienic, and appreciative. The growth of plants and animals for the uses which they serve in meeting our material needs requires much knowledge of soils, climatic conditions and effects, tillage, control of pests, plant and animal foods, and of means of preserving plant and animal products. Much of this knowledge is biological. But there is also much needed of physical science — of the simpler operations and principles of physics and chemistry as used in tools, implements, machines, devices, and processes in connection with food, clothing, shelter, transportation, and other everyday problems. The knowledge of these things is of no use in itself — it is only of value as applied to the carrying on of these activities in providing supplies and methods of daily life, or of understanding them so that their usage may be intelligent. They may, therefore, best be studied in direct response to needs for them in projects in these everyday activities. These are the economic needs to which nature study contributes.

The proper care of the body requires some knowledge of the structure and use of some of its parts and the development of habits in properly caring for these parts. The general structure of the teeth, the skin, the nails and hair, the eye, the ear, the nose, the throat, and the mouth, together with the uses of these, should be known in so far as this knowledge is helpful in keeping them all in a condition of health. In con-

nection with the uses of food, clothing, shelter, and recreational activities, such a general knowledge of the digestive organs, lungs, circulatory system, organs of excretion and sex, and the nervous system is needed as will be useful in keeping these organs healthfully at work. This body of knowledge and the health habits developed with it constitute the hygienic aspects of nature study.

The appreciative needs are of two kinds, æsthetic and intellectual. The æsthetic needs grow out of interests in the beautiful in form, color, sound, smell, and activity in nature. The revelations of beauty in all of these in plant and animal forms, in land and water formations, and in earth and sky by day and by night, give us much enjoyment. The cultivation of these interests affords purpose to many recreational activities. Their subject matter is needed in problems of design and decoration, of recreational excursions, and of the appreciation of the wealth of nature allusions in literature, music, and art.

There are intellectual needs resulting from the natural curiosity of children in how and why the forces of nature operate as they do which are satisfied by the study of nature. By cultivation, this curiosity may be developed into a permanent interest in nature and science. One may not only find keen enjoyment in observing the behavior of living forms and the operations of physical laws, but one may also derive great satisfaction from observing the changes in life activi-

ties brought about by applications of science, and by reading periodicals and books treating of the discoveries of science and their new applications. Such an interest is wholesome. It brings satisfaction in itself and it makes for a progressive and open attitude of mind. Closely related to these intellectual interests are questions of man's place in nature. Through them is an open avenue to interests in philosophy and religion. The spiritual life may be enriched by both æsthetic and intellectual appreciations derived from acquaintance with the forms and laws of nature.

Industrial Arts. — The industrial arts represent the changes made by man in the raw products of nature to make them more usable as food, clothing, shelter, utensils, tools and machines, and records of his experiences, as books and periodicals. All are constantly using the products of these changes, and information is needed as to the value of materials and methods of construction showing how to select and use products, how to help in the regulation of the production and distribution of products, and how to know good design in each kind of product. Through participation in securing this information there are developed habits, attitudes, and appreciations which contribute very materially in meeting needs for selection and use with efficiency and with economy in cost, time, and effort. Health needs are very largely connected with the proper usage of food, clothing, and shelter. Many of the activities which are coöperative and regulative in

character have to do with the production, distribution, and use of the materials and products of industry. To supply ourselves with material things and to use these most helpfully and righteously requires acquaintance with a large body of subject matter.

Geography. — The causes determining the location and control of the production and manufacture of products, the problems of transportation and trade, of the movements of people in the past, and questions of travel and of taking a large human interest in peoples and conditions remote from ourselves, are the sources of our needs for the subject matter of geography. To geography we go to find out what earth controls — lands, waters, soils, climates, natural resources, and natural obstructions or barriers — account for and determine the occupations and character of peoples in the different parts of the world. Our own activities are closely related to those of other peoples in most parts of the earth. To understand these relationships and to promote them the bases of relationship must be known and their values appreciated. Since most of the activities in which man is engaged have to do with the production, exchange, and use of the materials of agriculture, mining, and industry, in the regulative activities most satisfactory for these productive enterprises, and in the development of man's activities historically, the subject matter of geography is largely required in studies of the occupations of peoples, present and past.

Arithmetic. — Problems in everyday life in great

variety call for the use of methods of measuring quantities and values. The largest proportion of these problems have to do with the measurement of materials used, as food, clothing, and other needs of the household, and of the costs of these. It is, therefore, in activities in growing, manufacturing, transporting, exchanging, and using the materials and products which supply our daily wants that most of the needs for number appear. In addition to this service as a tool, the need for the interpretation of number in our reading calls for a knowledge of meanings beyond the point demanding facility in computation.

History. — The life activities and interests which call for the subject matter of history are of three general kinds: first, the problem of explaining the present by seeing how it came to be what it is; second, problems requiring action which we may help to solve by finding out the results of various methods of solving problems in the past; and third, a problem of satisfying what we may call disinterested curiosity, an interest in what man has done, for the satisfaction we derive from finding out about it. All of the life activities and the customs, habits, attitudes, and institutions about us have come to be what they are through a long process of development. Many of these matters are to-day so complex that we can get but a poor understanding of their purpose, meaning, and value until we see how they have grown to be what they are from small beginnings. In finding how progress has been made we see

the results of various different ways of doing things and through this record of the results of different methods we may derive helpful guidance for ourselves. Our interest leads us to ask of history that which accounts for the present development of agriculture, industrial processes and products, modes of everyday life, and recreational interests and activities as well as that which accounts for political life. These interests should be responded to with the appropriate historic subject matter.

English. — Our needs for communication require the mastery of the arts of speaking, reading, and writing our own language. We find that almost every activity in which we engage can be made more satisfying if we can read about what others have experienced. We read for information helpful in our various activities, and we also read for enjoyment. Our interest in human purposes, activities, situations, and values leads us to find satisfaction in reading of these as they are found in literature. We feel a need for the elements which give beauty to language and we enjoy the art forms in good prose and poetry.

Penmanship is purely a tool for expressing thought in symbols so that the thought may be recorded for future reference or communicated to others. As soon as we have needs for either recording experience or communicating to one at a distance the motive arises for penmanship. When it is appreciated how difficult it is to express one's self in relating thoughts and feel-

ings with correctness, clearness, force, and elegance, one becomes conscious of the need for subject matter in language. For writing, and as an aid in reading and reference work, the needs for spelling arise and the needs indicate the range and kind of subject matter required. Needs for correctness and precision in expression appreciated in later years of the elementary school make useful the more elementary matter of grammar.

Physical Education. — The play impulses in childhood express themselves naturally in various forms of rather vigorous bodily activity. To satisfy both the physical and mental needs for play the race experiences in games and sports are required. In the execution of these play activities there are revealed needs for some skills in movement, grace in carriage, and coöperation in group activities. These call for such drills or exercises as will result in satisfying proficiency. The activities entered upon for the sake of the enjoyment they afford yield their health values as by-products if they fully satisfy the play impulses. With the advance in age, the needs somewhat change, the play activities demanding relatively more purposive organization than in earlier years. The competitive element becomes larger, and there is a greater tendency to associate the play spirit with forms of recreational interests other than those involving much vigorous physical activity.

Music. — The need for the subject matter of music

lies in the impulse to express one's feelings in song, and in the natural enjoyment of listening to music. If these needs are fully satisfied by singing and by listening to vocal and instrumental music, the need gradually appears for the technical matter of music through a desire to compose, to read, and to play upon instruments. As music is a form of expression of thought and feeling, the interest in such expression demands, for its growth and development, much about the kinds of thought and feeling and the forms in which they are expressed. Life activities, aspirations, and purposes are the sources of thought and feeling expressing themselves in music, and participation in these with the associated study of their history affords the source of much interest in music and provides guidance to the most desirable music material.

Fine Arts. — Man's innate desire to make beautiful whatever he constructs places the need for design in the space arts in direct connection with the impulse to construct. Whenever anything is made of material, the need is felt for a form that will make it satisfy the eye as well as serve its utilitarian purpose. In designing the objects of textile, paper, clay, wood, or other materials, the needs arise for the subject matter of design. There is also an impulse to express one's feelings, one's interpretation of life situations, purposes, or meanings, in form and color quite apart from material needs. The child sketches, paints, and models to express this interest. These activities call

for the subject matter of fine arts — the method of expressing such thoughts and feelings, and the results of the master producers in these fields. The need is for guidance in the creative expression of the children themselves, and for the cultivation of interests and satisfactions in the products of others to make them a permanent source of enjoyment. As in literature and music, in the fine arts field interest in the products of master artist and capacity for enjoying them are much greater than capacity for creative expression in most children. The need for all is, therefore, large in a wealth of subject matter leading interests and appreciations progressively on to higher and finer participation in these sources of enjoyment.

Organizing School Activities to Include Subject Matter. — As already pointed out and emphasized, the most desirable organization of school activities is that which provides experiences in realizing life purposes which call for subject matter in a sequence developing naturally from the more simple to the more complex or difficult. In organizing such a sequence of projects, the summary of purposes served by each of the subjects from the results of race experience may be very helpful in providing conditions for stimulating activities which might be otherwise overlooked.

Without this frequent reference to race experience, there is the danger of one-sidedness due to the overemphasis of some interests at the expense of others. In making the curriculum, therefore, there is the

practical need of constant interplay between the immediate needs of the pupil for activities of various kinds and the subject matter which, when used, will lead to other activities on higher levels. The approaches to various experiences and the environing factors which help to make the situations and provide the background out of which they arise are very different in different schools and with different classes. For this reason any general curriculum must of necessity be in terms of purposive activities connecting the general interests of pupils with the social objectives through the use of stimulating as well as immediately satisfying subject matter. The setting for these activities, the ways of approaching them, and the details of method in their development have to be left very largely to the wisdom of the teacher in applying the curriculum. The projects the children initiate which require measurements of length and area will differ in different environments and different years, but the purpose of measurement and the need for a working knowledge of inches, fractions of inches, feet, yards, square inches, and so on, will be common. The direction given to activities resulting from the children's projects will also differ with conditions. But the general forms of purposes, and the subject matter used in furthering them, are the same for the elementary school wherever it may be.

The only possible organization of activities, therefore, which can have a general application or even relative permanence is one which offers a progressive

sequence of projects in realizing fundamental life purposes with its corresponding sequence of subject matter.

A Change in Organization, Too Radical for Practical Use, Is Unwise. — While it is possible to organize a curriculum on the basis of activities of life in which children actually engage, rather than in terms of subjects in which, as such, no one is engaged, the break between present practice and organization would be so great that such an attempt, if made general, would result in failure. A complete change of this kind would be revolutionary. The whole organization of the schools, and the whole experience and training of the teachers, supervisors, and administrators, are so thoroughly established for work on a subject basis that transition must be gradual rather than abrupt. The organization here offered is, therefore, an intermediate step in the interests of growth and progress between the present very wasteful and unsatisfactory organization and method and the more complete application of the organization and method described in foregoing chapters which is believed to be ideally desirable and possible. Such an organization as is here offered is a mode of natural transition. Its use may be begun with single units and its parts increasingly substituted for the older curriculum as ability and confidence in its use develop. When the plan is generally adopted the change to a more complete organization in terms of life activities will be easy and but a natural next step.

A Summary of General Principles for Curriculum Making. — The general thought of the foregoing chapters may be stated in a brief series of principles which may be helpful in making desirable changes in the elementary school curriculum. In later chapters are more specific principles relating respectively to the several kinds of subject matter treated in detail in each field of study.

1. In making the curriculum the measure of the educational value of any experience is the degree in which it makes a desirable difference in conduct.

2. Conduct includes all elements of personal and social behavior, acting, thinking, and feeling. Education is responsible for making such desirable differences in each of these elements of conduct that acts, thoughts, and appreciations will all contribute to the abundance of life.

3. Since experiences differ much in the amount of desirable difference they make, those which make the relatively most valuable changes should be chosen for the curriculum.

4. Conduct may be helpfully considered as made up of experiences which relate to health, to practical efficiency, to citizenship, and to the use of leisure. The educational value of any experience proposed may, therefore, be measured by the degree in which it promotes one or more of these activities.

5. The selection, organization, and use of the material in the curriculum should result in the children's

developing that knowledge and those habits, attitudes, and appreciations which are most helpful in affecting the desirable control of conduct. These mental factors develop in the degree in which they are used in situations which cannot be met effectively without them.

6. For the elementary school, the experiences selected for the curriculum should be those of approximately equal desirability for all children without reference to sex, future vocation, or social condition. The elementary school curriculum should represent the experiences of common value for efficient, wholesome, and satisfying life in a democratic society. This does not preclude the recognition of individual differences in children, nor mean that children should be discouraged from following individual interests of value to them beyond the point represented by the common content of the elementary school curriculum.

7. For children of those degrees of ability regarded as subnormal or supernormal, provision should be made for curriculum content suited to their respective needs.

8. In form the curriculum should be in three parts:

a. Suggestive projects which reflect the activities and interests of the life in which the children themselves are participating.

b. The subject matter available from the results of race experience required for the carrying forward of these projects in the best way.

c. A briefly summarized organization of essential

methods and skills, and of ideals, attitudes, and appreciations to be developed in connection with the projects and subject matter. This organization is to serve as a standard of reference for the teacher.

The essential elements constituting the third part of the curriculum should be practically the same for all elementary schools. The subject matter representing the second part should be much the same, although in some details and in sequence there may be much difference. The projects may differ very much in response to the environing differences of schools.

9. All methods, processes, principles, degrees of skill, or facts, as of manipulation, speaking, reading, writing, design, science, geography, history, or civics, should be introduced in response to specific needs or situations which require them.

10. To avoid the dangers of arrested mental development, the interest in drills in number, phonetics, language forms, spelling, oral reading, penmanship, drawing, or manipulation should not be permitted to develop to such an extent that these interests become greater than those in the purposeful uses of these mechanical elements.

11. The projects and subject matter, together with the skills, principles, attitudes, or ideals which are to be developed through them, should be graded to correspond both to the interests and capacities of children. No activity should be undertaken or encouraged, the successful pursuit of which taxes capacity to a degree

which destroys interest. Conversely, all activities should stimulate capacities to the expression of a maximum degree of effort to arouse the most progressive and rapid growth consistently possible.

12. The approach to all projects and subject matter more or less remote from the children should be through immediate interests and experiences which may be so directed as to lead by gradual steps to the remote. The principle of apperception is vitally important.

13. Since the approach to all questions must be through immediate experience, the initial stages of many projects which include common subject matter should differ as much in different schools as the environing conditions differ. Individual teachers must be responsible for the use and adaptation of projects growing out of the immediate activities and interests of their own communities.

14. As one of the class group depended upon for its educational leadership, the teacher is responsible for guiding the children so that they will initiate projects representing not only the purposes immediately significant to them, but which will also lead them into higher levels of purposing, representing larger and higher values of social life.

15. The curriculum for a given school or school system should be the joint product of all the school staff. Teachers should participate in any revision of a curriculum to such a degree that they feel a large share of authorship in its changes and of responsibility for

carrying out the changes. Superintendents, principals, and supervisors should be responsible for leadership in stimulation, plans of organization for revision, and helpful constructive advice.

16. In determining standards to be attained in the respective grades, all of the helps contributed by child psychology and by psychological and educational tests should be utilized. These contributions convince us that we yet have much to learn about the detailed growth of capacities in children. This emphasizes the need for making the gradation and sequence of work very flexible.

17. Any revision of the curriculum should be gradual rather than abrupt or wholesale. A complete reorganization on a project basis is a desirable ideal toward which to work, but the transition to this can be made successfully only by a growth that is deliberate and sure.

18. The curriculum can be developed and applied in the spirit of modern democratic and educational ideals only when so organized and administered as to permit a wide degree of flexibility in programs, and large individual freedom for teachers to adjust the relationships of its parts to the needs of their respective classes.

CHAPTER IX

THE PRACTICAL ARTS

Inclusive Meaning of the Term for Elementary Schools. — The term "practical arts" includes all of those activities which have to do directly with the producing, changing in form, making available, and using of things which satisfy our material needs. The following divisions into occupational activities are clearly apparent:

Agriculture. — The production of plant and animal forms which give many of the raw materials used in food, clothing, shelter, utensils, tools, and some other facilities for human comfort and well-being. Farming, gardening, and forestry are large inclusive occupational divisions.

Fishing and Hunting. — The means of securing animal raw materials by capture or killing for food, clothing, and some other forms of usage.

Mining. — The production of mineral raw materials used for fuels, light, production of power, and lubrication; for making tools, implements, devices, and accessories in all fields of activity requiring metals; for fertilizers; for building construction; for pottery; and for numerous other uses to which the products extracted from the earth lend themselves.

Industrial Arts. — The changes in the raw materials produced by agriculture, hunting, fishing, and mining which make them more usable. These changes are commonly known as manufacture. The field of the industrial arts is very large as here defined. It includes all of the changes made in food materials, clothing materials, woods, metals, and clay and other earth products. Industrial design is an inherent part of the field, having to do with the planning of industrial objects so that they may be both useful and beautiful.

The Commercial Arts — Transportation and Trade. — The occupations having to do with the carrying of materials and products from the place of production to other places for manufacture or for consumption, and the occupations for exchange and sale of materials and products. The commercial arts represent a very great variety of forms of salesmanship, wholesale, and retail. They engage in the distribution to consumers of every form of material goods and in the auxiliary activities connected with such distribution, as office work of many kinds, banking, insurance, and brokerage.

Purposes Served by the Study of the Practical Arts. — In the elementary school there are three large types of life objectives served by the study of the practical arts: 1. The usage of these products; 2. The social relationships to the producers. 3. Intellectual appreciation of practical activities. Each of these may be treated in some detail.

The Use of Products. — Intelligence and appreciation in the use of the products of the practical arts include consideration of these products in relationship to three kinds of value — economic, hygienic, and artistic.

Economic Values. — As consumers, we all need to know the quality of the materials and the costs in money of foods, clothing, furnishings, and everything else for which we have common use. We cannot know whether a price asked for a given article is reasonable unless we know its quality and just how well fitted it is to meet the need for which we intend to use it. Is a pound of navy beans an economic purchase at fifteen cents? We cannot say unless we know its food value and the cost of an equal quantity of the same food elements in other foods. Is a given piece of linen worth the eighty-five cents a yard asked for it? Until we know quality, and the price of other linens of poorer and better quality we cannot tell. Is a given chair a good investment at nine dollars? We can say only when we know the material of which it is made and its qualities, the form of construction and finish and their durability, and the prices of other chairs whose materials and construction are known. Whatever we select and purchase must be thought of in terms of its values for its intended use and its cost if our purchase is really intelligent.

There is no means by which to secure a knowledge of values so fully adequate as by a study of the processes

of production and manufacture, the sources of raw materials, the distances and routes of transportation, and the sales practices of each major kind of products used in daily life. The processes and problems of growth of plant and animal materials and the processes of change in their manufacture can be best understood and appreciated by participation in them. School gardening, or using the farm experiences of country children, engaging in school in the industrial processes of change as far as possible with small equipment, purchasing products, visiting factories, shops, and stores, and studying the home problems in using products are some of the necessary means for getting a really intimate knowledge and appreciation of values. Finding what it costs in labor and intelligent use of scientific knowledge to produce raw materials, what really increases values in the processes of manufacture, and what the costs are in transporting and distributing the finished products, provides a basis for selecting and purchasing with an intelligence and an economy that can be secured in no other way. The gardening or farm activities, and the industrial processes carried on in the school are not primarily to provide physical activities and develop manual skill. These are but incidental, by-values of the projects. To find out by actual experience, supplemented by much observation and reading, just how the race does provide itself with these materials and products and just how these are most intelligently and economically used is altogether

a larger purpose. In no other form of school activity is it possible to come into such an intimate and personal relationship with the chief activities which are the first concern of the whole race. Upon the success of man in providing these basic necessities with intelligent economy rests the possibility for satisfying most other desires — those for the non-material goods of leisure and the higher life.

Hygienic Values. — In the study of the production of plant and animal foods, of their manufacture into more usable products, and of their preparation for immediate consumption in the home, and as served in restaurants, almost every step may yield information which is vitally related to problems of health. Food values of different kinds of food materials, the changes in food values resulting from methods of preservation, manufacture, or cooking, or by combination with other foods, or by substitutions of one food for another, the bodily conditions affecting food needs — all of these and many more questions of food in relationship to health are inherently a part of projects in the provision of food in usable forms. Problems in the hygiene of clothing are equally a part of many projects in the production and manufacture of clothing materials and garments. In the study of shelter there are many problems that are directly concerned with the health conditions of the home. Of all things purchased for personal use as food, clothing, and furnishings, the conditions under which they are produced and sold

are important in relationship to health. Foods exposed on dusty streets, milk from unsanitary dairies, and clothing produced in unsanitary homes or factories are examples of conditions which have a health bearing in such studies. Unless these matters of health are included in the consideration of questions to which they naturally relate they will have little chance of becoming an impelling force in the lives of the children. Rather than having a place to be treated separately, most questions of hygiene are parts of projects in the practical arts.

Artistic or Æsthetic Values. — The largest problem calling for an appreciation of good design in everyday life is that of selecting for use products that are pleasing and satisfying as objects of beauty as well as of utility. The study of the materials, construction, and forms of clothing, housing, and house furnishings of all kinds includes considerations of design. All projects in construction should include problems in design; and problems in selection for particular uses include questions of appropriateness to purpose, and of harmonies of line, tone, and color. Through these problems the principles of design are developed as they apply to each kind of material and product. Standards of judgment are developed and taste is cultivated. The subject matter of the practical arts therefore may very definitely help children to know what is genuinely beautiful in dress, in architecture, in house interiors and furnishings, in household surroundings and

grounds, in vehicles, and in all of the material products of common usage. The work should help them not only to know what is beautiful but, by the constant appeal of fine examples, to love that which is beautiful. It should lead one to demand good design and to surround himself with that which is beautiful rather than that which is ugly.

The proportion of life concerned with the selection and use of the products of the practical arts is very considerable. Through the school activities in realizing and meeting the needs for these products in the most effective way, the knowledge, the habits and attitudes, and the appreciations are developed which serve in daily life to satisfy these needs economically, healthfully, and in good taste.

Our Social Relationship to Producers. — Because of our human and democratic ideals of life we are all very much responsible for the well-being of each other. Through the studies in practical arts activities we should come to understand and appreciate sufficiently the conditions, problems, and processes of production to have an intelligent, sympathetic, humanly just attitude toward the producers. We should learn the conditions, problems, responsibilities, and services of farming, of fishing, of mining, of manufacture, of transportation, of shop and storekeeping, of housekeeping, and of homemaking. As children participate in these activities and as they follow the leads of such projects into the manufacturing, commercial, and home-making world

they are brought face to face with many situations in which workers are suffering one or more forms of unfair and unjust treatment. Some are working too many hours a day or week; some are at work that is too hard for them; some are working under conditions that are unsanitary and unhygienic; some are underpaid; some are in bad moral surroundings; some are working under systems that make them virtually slaves. Other situations are found in which employers are suffering handicaps from unfair restrictions made by organizations of workers, or by restrictions in the sale of products established by other employers or by customs that operate unjustly. In still other situations great waste is found because of shortage of labor, very often at times when not far distant many men and women are unemployed. Child labor is often found at times and in places where adult workers are idle and must be helped by charity. There are also revealed situations in which very great difficulty is experienced by the producer in getting his products to the consumer on a basis that both can afford, because of transportation or business restrictions which are selfish and unfair. Workers who are sick or who have been injured or who have become too old to work will often be found in want and distress. Discovery may be made of production in unwholesome places and by persons who may so contaminate food or clothing that it is a menace to the health or even the life of the consumer. Misrepresentation in goods presented for

sale, and unwholesome exposure of foods and other goods, will often be found.

In multitudes of situations conditions will be revealed which will clearly show the need for regulative provisions which will secure to workers, to employers, and to consumers more just and equable benefits. It will be seen that individual selfishness and greed, in some can only be overcome, and fairness guaranteed to all by the united effort of all. Many laws will be found touching upon such regulation and control, but it will also be found that some of these laws are ineffectively formulated and that some are not enforced sufficiently rigorously to cure the evils for which they are intended. Needs for new laws will be revealed. Children themselves raise the question of why we should have pure textile laws as well as pure food laws. Voluntary regulative measures are found, as the Consumers' League, which try to secure wholesome conditions of work and living wages for workers.

Through these activities some of the most vital forms of social interdependence and needs for social and civic regulation are discovered. The sense of personal responsibility for the well-being of others is brought home. Whether they live near or remote from me, are not these workers, who produce so much for my use and comfort, my neighbors? As a citizen in a democracy am I not personally responsible for the conditions which affect the health and happiness of these, my neighbors? Am I not my brother's keeper? To

answer these questions raised by the situations revealed in many practical arts projects, inquiries into the whole purpose and machinery of civil government become necessary and of impelling interest. How are laws made and enforced? Who are the law makers? How can we express our individual and group desires in such a way as to have good laws enforced, bad laws repealed, and new laws made and enforced? What also can we do voluntarily as individuals and groups without resort to law, in bringing about better conditions? The purpose and limitations of such organizations as the Consumers' League, labor unions, producers' associations, and other groups acting together for achieving benefits for themselves or for others will require consideration of their part in securing justice and fair dealing.

The practical arts activities therefore lead normally into problems of social responsibility and social control which are among the largest and most important for the intelligent and sympathetic exercise of civic opportunity and obligation. These activities acquaint pupils with the needs out of which much of the machinery of government arises and make intelligible the meaning of this machinery and the relationship of the pupil himself to it.

Intellectual Appreciation of Practical Activities. — The general curiosity of children is very largely engrossed in the wonder of both the biological and physical aspects of nature and in man's uses and adaptations

of these to meet his needs. Projects in the practical arts exactly fit the demands of this absorbing curiosity by satisfying many of its immediate objects and by ever leading on to new and wider appeals. As the means of control and adaptation used by man in supplying products and in using physical forces to do his work are seen and understood, there grows a gradual conception and appreciation of natural law. The general curiosity of early childhood develops into scientific curiosity. From the beginning there has been a satisfaction in just finding out the how and the why of things. By directing attention and thought in all contacts with plant and animal life as related to the needs of man, and with the uses of power in the tools, devices, and machines invented to help man in his work and play, this scientific curiosity may be developed into a permanent interest in the processes of nature and of their uses by man. This may lead to a lifelong habit of observing and examining the phenomena of nature and the applications of science with intelligence and pleasure. A wide range of good reading matter may make its appeal through this interest and be pursued in leisure. The satisfaction derived from this kind of interest is wholesome and worthy, and it should be developed as a by-product of the work in the practical arts when they are appropriately taught.

The Values Attributed to Practical Arts Subjects as Subjects. — Biology, nature study, manual arts, house-

hold arts, physiology, and hygiene are all subjects which are repeatedly said to be of fundamental importance. It is said that they touch personal and social life at every point, that without a knowledge of these subjects no one can be intelligent about the life of our time, about caring for his personal wants, about coöperating successfully with others as a citizen, or about appreciating the wealth and beauty of nature and social life. The truth and importance of what is usually meant by such statements is readily accepted. But by studying these subjects as separate from the life activities in which they are useful, the attributed values are realized in a very small degree only. Neither the mere formal knowledge of isolated facts in these fields nor the mere manipulative skill in some of their constructive processes provides the definite values most significant in daily life. In selecting projects in which the subject matter of these fields is necessarily used in carrying them forward, the importance of their content is appreciated in those very situations and relationships which give it real worth. It is seen by the pupils that it promotes activities in which they already have fundamental interest and in which they see fundamental value. By using the content of these fields in such projects rather than by treating each field as a separate subject their content is genuinely brought into personal and social problems, and the values usually attributed to them are actually made real. By using their matter in practical activities

which require it in carrying them forward, children of the elementary school come to appreciate their worth in a direct and tangible sense. A basis is also established for entering upon their more intensive and systematic study as instruments of economic and social life or in their more extended applications in particular vocations.

Helpful Teaching Materials in the Practical Arts. — There is much illustrative material available for almost every problem arising in the practical arts. The environment with its actual, everyday activities should furnish the first source of such material. The homes of the children, the shops, stores, factories, transportation facilities, gardens, and farms should all be drawn upon to furnish everything they have to offer which will bring out meaning of all important kinds. The advertising matter as well as the reading content and pictures of magazines furnish many helps. Exhibits or descriptive booklets may often be procured from industries advertising in current periodicals. Picture post cards are also available at very small cost. By application to a local dealer, addresses of post card distributors may be secured enabling the pupils to make collections illustrating agricultural, commercial, and industrial activities in almost any part of the world. Post card prints of masterpieces in art, supplementary to industrial studies, are also available. Much free material for schools may be had in government documents, from the Superintendent

of Documents, Government Printing Office, Washington, D. C. The agricultural colleges and experiment stations of most of the states also have helpful material for free distribution. A request sent to the state printer at the capital of any state in whose products or geographic conditions one is interested will usually secure a list of the publications available and the conditions under which such publications may be procured.

The teacher will find excellent opportunity to help the children in letter writing and other forms of composition needed, in getting all of the help possible from various sources, in their study of the practical arts. All material that will help to make important ideas and meanings more clear and vivid should be secured. Much of such material may be found by the children themselves.

Projects in Practical Arts. — Children are naturally very active physically. They are stimulated strongly by play impulses, constructive impulses, and impulses to investigation. The concrete materials about them naturally further the expression of these impulses. Since the form and general character of their activities are largely influenced by what adults are doing all about them with materials, the first projects which they will normally initiate are those in the practical occupations of mothers, fathers, and others of the immediate community. By developing these projects in the lower grades, the avenues to new interests leading to new projects involving more and more of social

and educational value may be followed without break and with a continuously increasing demand for materials from the other school subjects. Drawing, design, and number will soon be required to carry forward their constructions; considerations of plant and animal materials will require some of the facts and experiments of nature study; in answer to questions of sources of materials and reasons for localized production, elements of geography will be needed; in explaining how things of to-day have become what they are from simpler beginnings, history will be called upon; the need to use books to get helpful and entertaining material will make the value of reading apparent; in expressing the delight of successful achievement in practical activities, songs, stories, pictures, and games will be found to yield their contributions.

In an attempt to offer a number of major forms of projects in the practical arts, some rather definite organization is necessary so that the work will not be fragmentary or scrappy. From the standpoint of the uses of their products, our practical activities may be classified into six large groups, representing respectively those activities by which we provide ourselves with: foods; clothing; shelter and furnishings; utensils; tools and machines; and records — books, papers, magazines, and other products of the printing and publishing industries. Projects may be conveniently grouped under these respective divisions.

In developing a large project, as, how we provide

ourselves with cotton clothing, the initial and immediate smaller project of the children might be that of a dress for a doll or of making a work apron for themselves to use when cooking or while sewing. From this initial project the teacher would aid in directing interest to the question of where we get the cloth of which the apron is made. From this she would lead into other problems which would include the geographical sources of raw cotton, the methods of its growth, its manufacture into thread and cloth, and the making of garments by hand and in factories. She would so direct the thought as to bring out questions of the history of cotton, and of social problems connected with its production and manufacture. She would lead to consideration of the varieties of its forms in cloth, how to test its values, its use as an adulterant, and when to use it rather than some other textile material. She would emphasize questions whose answers will make economic, hygienic, and artistic usage intelligent and effective and give basis for a helpful social attitude toward those engaged in its production. No individual teacher would probably attempt to cover all parts of such a large project with one class. The most simple parts would be taken in a first grade, more difficult steps in a second or third, and yet more advanced parts in the fourth, fifth, or sixth grades. Intelligent judgment is always required of the teacher in determining what a project may include with profit for a given class. In upper grades, when

continuing by new phases a field of study begun in lower grades, all that has gone before serves as a background of experience for going forward and should be so used.

In all of the large practical arts projects suggested, the teacher should have definitely in mind that the work is to provide children with experiences through which they will develop knowledge, habits and attitudes, and appreciations which will enable them to select and use the material goods of life economically, healthfully, and artistically; and to aid in securing right conditions for those producing these goods and right relationships between producers and consumers.

Projects in Shelter — Houses and Furnishings

Grade I. *Building and Furnishing a Doll House.* — A house of one story or two stories, or an apartment house may be made by using boxes for individual rooms and assembling them, or by other means of construction. Such minor problems as the following bring out the important values: the number of rooms and purpose of each; the adaptation of each room to its purpose; needs of light, air, and sunshine; lighting by windows; materials of which houses are built — visits to houses under construction; local sources of building materials — visits to lumber yard, hardware store, brickyard or cement plant; painting and papering the house — visits to see painters and paper hangers at work; appropriate furnishings made of

cardboard or wood for each room — visits to furniture stores; textiles for each room — curtains, rugs, bedding, table linens, towels, — with visits to stores; care of the several rooms, as is appropriate in the home; and such related questions of hygiene as, why mother opens the windows to air the rooms and bedding, and at night in bedrooms where we sleep; why doormats should be used to keep street dust from our rooms; why rugs are better than carpets for floor coverings; why the vacuum cleaner is better than the broom for sweeping; and how dusting and scrubbing may be done in the best way. Design and decoration are involved in both the problems of construction and in the points to which attention is called in many of the visits.

Grades II and III. — Simple furniture to serve in a housekeeping project in the second or third grade, or pieces of furniture for the schoolroom or home, may continue the interest in house furnishing, leading to larger questions of value in materials, construction, and design. The sources of building materials for houses and furniture may lead to a study of the lumber camp and of transportation. The work of the fire department in protecting houses may here be taken up. A general large project may be used in these grades — a study of the homes of other peoples, present and past. For this, much reading and study of pictures is demanded. Small models of the Indian wigwam, Indian cliff house, the Eskimo house of snow, the

Hebrew tent, and the later Hebrew house of sun-dried bricks, may be made by groups of children. The homes of children about which stories are read may be compared with our homes and reasons for differences discovered.

Grades IV and V. — Some further projects in furniture construction are of interest in these grades, and questions of commercial materials, forms of construction, design, and prices may be considered in ways not possible in lower grades. Studies in the houses and furniture developed by the Greeks, Romans, and later Europeans may now be taken up with profit, noting the great advance in architecture and furniture over earlier periods as found in the homes, temples, cathedrals, and castles of these peoples. Through projects of this kind it becomes possible to interpret much in the buildings and furnishings of the present time which had their origin in these earlier periods. Forestry, lumbering, milling, and the commercial manufacture of woods into building materials and furniture may be studied, which in turn will call for much material from regional and industrial geography.

Grade VI. — The development of shelter and furnishings in America from log huts and puncheon furniture of colonial days to forms of the present gives opportunity to note the development of our material resources in terms of their use in shelter and furniture. The present variety of building materials, their sources, their desirability, their cost, and their appropriateness

under different conditions of usage, climate, and city or rural environment are questions which sixth-grade children will enter upon with interest and profit. Problems of sanitation, lighting, heating, planning, furnishing, and caring for the home are now desirable. Modern conveniences, including all kinds of mechanical devices, from the standpoint of both comfort and sanitation, should be included. Social questions connected with the production of building materials, the building trades, the management of water and lighting systems, village and city planning, and the housing of workers in congested districts, are all interests into which pupils may easily be guided. Among these are some of the most important problems of local or community civics.

These questions will constantly demand material of industrial geography, history, literature, and current publications in much variety, as well as of the subject matter usually placed under the respective practical arts subjects.

Projects in Clothing and Clothing Materials

Grade I. — A project in dressing a doll for the playhouse made in this grade includes problems in the suitability of different kinds of clothing to seasons, emphasizing the use of wool for winter and cotton for summer; in the selection of materials for different parts of the costuming as to materials, colors, and cost; and in very simple garment making, including

design, the use of simple patterns, cutting, and the simplest stitches in sewing. The costume may well include a coat or cape and hood. Silk may be used for the cape strings and hood. The children may learn to recognize wool, cotton, and silk by handling as a simple test. In selecting materials attention should be given to what children and others are wearing and visits to dry goods stores may be useful. Woven rugs on the simplest form of hand looms may be made for the doll house.

Problems in properly clothing the doll include questions relating to the health of children, as why we should keep our feet dry and warm and why we should have comfortable shoes; why we should keep our coats buttoned and our hats on in cold weather; why all of our clothing should be comfortable; and why mother is so particular about keeping our clothing clean and fresh.

Grade II. — A project in making horse reins or a stocking cap by spool knitting provides a basis for a comparison of knitted and woven fabrics. Projects in furnishing a playhouse or room with curtains, table linens, and bedclothes, and in providing children with individual wash cloths and towels raise questions in the selection of appropriate materials and of simple tests, and require sewing of simple seams and stitches. Washing, ironing, and putting away the clothes of the school doll or of dolls at home include problems in the proper care of clothing for cleanliness and

durability. An iron holder may be needed. Making a Christmas stocking is a possible small project. Sewing buttons on clothing brought from home or on garments worn at school may be done in this grade. If stories of primitive life are used in the school, a skin may be dressed to furnish clothing for a doll representing primitive man.

In the selection of materials for the several smaller projects the work may include visits to dry goods stores and may result in a desire for the dramatization of dry goods store activities, calling for a study of goods offered in such stores, prices, and methods of buying and selling. Noting the number and kind of dry goods and clothing stores, shoe stores and shops, hat stores, and tailoring shops will give some appreciation of our dependence upon others for clothing and of how many people are engaged in providing us with clothes.

Grade III. — The weaving of small individual rugs or of a class rug to be made of the smaller rugs in connection with a shelter problem, using a loom with a simple heddle, may lead to a study of the various processes of wool growing and manufacture. This will include sheep raising, sheep shearing, and the washing, carding, spinning, weaving, and dyeing of wool. This may be a part of the study of the life of a pastoral people, as the early Hebrews. Sources of dyestuffs will lead to ideas of the extensive early use of vegetable dyes, and of tied-and-dyed methods of

coloring as well as making stripe, check, and other designs by weaving. Indian designs in blankets and other woven products will be of interest. Attempts at variety in design, including tied-and-dyed work, may be made by pupils. Difficulties of spinning will lead to methods of early peoples and of the use of the spinning wheel. If the children themselves secure a piece of sheep pelt and carry the processes through from shearing to a woven blanket, they will have a basis for interpreting much of everyday value related to the selection and use of wool and woolen fabrics and garments. Tests of woolen fibers by feeling and burning should be made. Comparisons of the four textiles, wool, cotton, linen, and silk will naturally arise in questions of usage and in tests for purity of woolen threads or fabrics.

Projects growing out of needs for bags for gymnasium shoes or rubbers, and for other textile products in school will give sufficient opportunity for advances in sewing. In the selection of materials, and also in the study of woolen fibers, fabrics, designs, and garments, visits to stores will often be called for by the needs of the children.

Connected with the interests in Indian life the children may want to make an Indian moccasin. It is possible to dress a rabbit skin for this, or sheepskin may be used. The early uses of skins for clothing and their uses in the present may receive some attention.

Grade IV. — Garments made for dolls, or for chil-

dren, will frequently include the use of silk which may now be followed quite fully through the processes from the silkworm egg to the woven fabric. Where possible it is desirable at the right time in the spring to get silkworm eggs from the Department of Agriculture at Washington, hatch them, produce cocoons, and spin and weave a small quantity of fabric. In connection with this the common adulterations of silk may be studied and tests learned for silk. The uses, care, and problems in selection and purchase should be included.

If Greek life is studied in the school, the dramatization which children will desire will call for Greek costuming, furnishing problems in selection of materials, color harmonies, and construction. These problems in construction and those in garment making for dolls or children furnish adequate opportunities for sewing. Different garments needed may also lead to a comparison of knitted and woven goods as to use, durability, and cost. The relative values and costs of hand-knitted and machine-knitted goods may be considered.

The problem of hats in costuming may lead to the question of felting as a process and the uses of fur and wool for felts. A school pennant may be made of felt.

The study of shoes may readily lead into the sources, methods of preparation, and uses of leather. The various kinds of leather used for shoes and the uses made of each may be charted. The simpler ques-

tions about the construction, qualities of materials, and health problems of shoes may be taken up. A simple watch fob or belt or cardcase made and decorated by easy tooling will be of interest in connection with leather studies.

Grade V. — A project in making a school apron may be used to open the way for a full study of the production, manufacture, and use of cotton. This will include its growth as a plant and the questions of geography which this raises; the different kinds of cotton; the processes through which cotton goes from ginning to the finished fabric; the invention of Eli Whitney and its industrial and social results; the reasons for the location of cotton factories; cotton-mill life with its influence upon mill workers; child labor in the cotton industry; the garment-making industries; factories and piecework; sweat shops and the Consumers' League; and cotton products. A comparison of the sources and problems of wool production may easily lead to a study in some detail of sheep growing in the United States and other parts of the world, different kinds of wools, and the closely related question of geographic controls of both sheep and cotton raising.

In this grade is the study of leather. This may be directed to a further study of the shoe industry. Manufacturing and repair processes, adulterations, leather substitutes, kinds of leather in shoes relative to price, care of shoes, and hygienic questions connected

with shoes may all be considered in relationship to the selection, purchase, and use of shoes.

Projects in the repair of clothing should find a place in the school large enough to develop good methods of patching, darning, and sewing on buttons. Washing, ironing, pressing, removing stains, storing, and renovating by various methods should receive attention as situations arise which may readily lead to their consideration. In connection with linen, plant some flaxseed in the spring to be used next fall for a study of the making of linen cloth.

Grade VI. — In connection with the projects in house furnishings in this grade, a study of linen in detail may follow the problem of household linens. The processes of making linen from the plant to the fabric may be carried on in the school and studied as they are commercially practiced. Flax may be grown in the school garden and used for making a small quantity of fabric. In the spring the fifth grade should plant the flaxseed so that it may be ready for them in the fall. Tests, adulterations, qualities as to price, uses, and the related questions of geography should all grow out of the study. In connection with tests for linen, tests for all of the common four textile fibers should be summarized and any new ones of importance added, so that they would include those by feeling, breaking, burning, untwisting, using oil, and using simpler chemical tests. Growing out of the study of linen may also come the study of the lace-

making industry, particularly in Europe with such examples as Cluny, torchon, and others, and machine imitations of these. Design of linen fabrics may lead to a review of the whole question of textile design and the study of the use of heddles and the machine looms of Jacquard and others for making great varieties of design. The typical weaves may be especially noted — plain, twill, and satin; and also the use of stencils, printed designs, and tied-and-dyed work. The weaknesses in goods produced by the factory methods of using vegetable dyes may be compared with the use of coal-tar dyes of to-day, and related questions of recent history will naturally emerge.

In considering design and the changes in both the design and the quantities of textile materials from early to recent times, particularly in connection with rug-weaving projects with a colonial loom, which is excellent for this grade, the historic inventions in spinning and weaving machinery and the industrial and social changes resulting from them should receive attention. The inventions of Cartwright, Kay, Hargreaves, Arkwright, and Jacquard are as socially important as the contributions of any other historic characters of their time.

Making a petticoat, an apron, or some other simple garment should now include adapting commercial patterns to individual measurements, cutting and making. The use of the sewing machine should be introduced. A laundry bag may be machine-made

as a stitching project. The parts of the machine and their use and care may be taught. The influence of the invention of the sewing machine upon the garment-making and other industries and upon social life may be made clearly apparent. The place of Howe, Singer, and Wilson as inventors should be appreciated. In connection with all problems in general instruction special attention should be given to costume design — to questions of line, tone, and color in fabrics and garments.

The manufacture of rubber shoes and raincoats and the rubber industry with its geographic controls is also a desirable clothing study. It should include the story of Goodyear and the history of the rubber industry as well. The place of rubber in the automobile industry connects with the study of the important uses of rubber.

Projects in Food and Food Materials

Grade I. — Planning luncheons or tea parties at different times in the year for the pupils themselves, for mothers, or for other invited visitors will require considerations of what we eat, and this may be used to lead into projects in noting the different kinds and sources of food, as grains, vegetables, fruits, meats, eggs, milk, and other more common foods. Which of these go together well for a luncheon or other meal will necessarily be a part of the luncheon project. The foods that may be used as they are grown may be

noted — nuts, fruits, some vegetables, and milk. Those requiring preparation and change by cooking may also be noted. Sources of these various foods may be considered, leading to visits to groceries, fruit stands, bakeries, meat shops, and markets, and to questions of where the salespeople get their foods, which will lead on to brief considerations of gardens and farms. The use of cows, pigs, and poultry to farmers and to city people may be discussed. The idea of interdependence among people as shown by these studies should constantly be emphasized. The growing of some foods to meet the needs of the school luncheon, or to help to supply the local food demand, will introduce projects in school gardening or home gardening, or a study of the home production of foods. In the spring each pupil or group of pupils may plant suitable vegetables in the school or home garden. In the fall some simple project in food preservation, as making jelly or canning tomatoes, may be carried out by the teacher and pupils working together.

The luncheons or tea parties may include some simple work in cooking by the teacher and pupils. Cocoa or soup may be made and served. Table service and behavior are included in this project and also such questions of hygiene may be considered as, why we should wash our hands before touching food; what should be done with food that has fallen on the floor or street; why not eat food that has begun to decay; why fruits and vegetables should be washed

before eating; why foods should be kept away from flies; why we should use great care to keep milk clean; and why we should eat slowly and chew our food well.

On festal occasions popcorn balls or candy may be made by the teacher and pupils. As a result of visits to groceries and other food stores, or to farms, desire for dramatization of the activities may arise, calling for the making and furnishing of small stores or farms by the children, and for activities of buying and selling.

Grade II. — Luncheon projects continue, and these offer leads into further questions of food materials, food values, and food preparation. A simple cereal, as oatmeal or cream of wheat, may be made by the teacher with the help of pupils. Very simple vegetables, fruit and nut salads, sandwiches, or custards may be prepared and served. Table service and practice offers occasion for continued emphasis upon questions of both hygiene and courtesy. The selection of proper combinations of foods for luncheons brings some ideas of food values, though not in technical terms. Bean soup, a bread and butter and lettuce or tomato sandwich, and an apple or dish of canned or stewed fruit, or two or three figs or dates, or a piece of cake, suggest kinds of combinations which children can each help to prepare.

Projects in the preservation of food may include drying of apples or corn, shelling and putting away in dry places of beans, and canning of tomatoes or fruits.

Related problems in storage may include the use of refrigeration.

Kinds of foods used by primitive peoples, their methods of securing them, the forms in which they were eaten, the earliest forms of cooking, and the methods of preserving them are questions which may be raised in connection with stories of primitive life and comparisons may be made between these and present methods.

Further interests in dramatizing the buying and selling of food products may result from visits to stores and markets. Care in keeping foods clean and free from dust and insects, and in properly disposing of waste enter as needs for health purposes.

Grade III. — Projects in the storing of foods from the school garden and in the home lead to further methods of food preservation. If studies of Indian life are used in the school, many comparisons may be made between primitive methods of food preparation and preservation and our own. Parching corn, making hominy, making meal by the use of mortar and pestle, making corn mush, and the making of succotash of corn and beans, together with present methods of preparing and using corn for food, including a visit to a mill if possible, may be engaged in by the children.

Milk and milk products may be studied, including the making of butter by the use of a fruit jar used as a churn for separation of the fat; the making of curds, whey, cheese, and junket, showing the action of rennet;

the thickening of milk in cooking with flour, eggs, and starch in making custards and white sauce; and the care and food value of milk and milk products, noting the use of cheese as a meat substitute. Visits to dairies, creameries, or milk stations will be important in this work.

The uses of figs, dates, oranges, and nuts, including the stuffing of dates with nuts, may be connected with luncheon projects or festivals. If stories of the early Hebrew peoples are used, these foods, together with lentils and the use of unleavened bread, may be taken up in these connections and the present-day supply of foods coming to us from the eastern Mediterranean region noted in some detail. The use of olive oil and the making of simple fruit and vegetable salads, and the making of grape juice to use on festal occasions may be included.

Grade IV. — Luncheons and projects in finding out more about how we are provided with foods may lead to studies of eggs, including their food value as compared with milk, meat, vegetables, and cereals; methods of cooking eggs; their use in thickening milk, lightening batters, and in preparing other foods; methods of storing and testing by candling; studies of starch as to food value, and tests; the use of rice as a food; the food value, manufacture, and preparation for use of macaroni; the uses of starch in preparing other foods; studies of fish as to food values, methods of preservation, and cooking; and studies of cocoa

and chocolate as to food value, manufacture, and preparation for use. In the study of each of these luncheon projects we may include illustrations of the use of particular foods, as: boiled eggs, deviled eggs, popovers, or ladyfingers made to show the use of eggs to lighten doughs and batters, rice cooked with cheese, macaroni cooked with cheese, boiled or stewed rice, rice pudding, potatoes baked, oyster soup or fish chowder, and the making and serving of cocoa. In all of these projects the questions of food values and of health and sanitation should be emphasized by the teacher. The sources of each kind of food material will call for many facts from geography, and the food problems of earlier peoples for much from history. Visits to gardens, farms, stores, markets, and places of food manufacture will be frequently needed. Some questions of the social conditions and relationships of food producers and consumers will be of interest to the children. The cost of different food materials used in relationship to food values will require the use of much arithmetic. Emphasis should lie much more upon questions of the proper use and care of the various foods considered than upon questions merely of cookery.

Grade V. — A large project in finding out about the use of cereals as foods may include much relative to their production, manufacture, and uses. The milling industries and their products will include flour making, bread making, the use of yeast in fermentation, making and uses of meal, uses of gluten, the

making of breakfast foods and their food values, and the making of starch, glucose, corn sirups, and other foods or by-products, of the cereal industries. Many questions will be asked of agriculture, geography, arithmetic, and civics. School luncheons and home projects should give numerous experiences in cookery. Another large project with its phases that are agricultural, geographical, mathematical, industrial, and social is that of the production, manufacture, and uses of meats and the by-products of the meat-packing industries. Stock raising, poultry raising, meat packing and distribution, cold storage, government inspection, meat cuts and products with their food values and costs, the methods of cooking meats as boiling, broiling, roasting, frying and soup making, and their relationship to health, animal fats, and questions of meat substitutes are all included. The by-products of fertilizers, buttons and other bone products, glue, horn products, hair, leather, and soap may all be approached as problems growing out of the study of the meat-packing industry.

The use of sugar in connection with many other foods may lead to a study of sugar as to its food value, the production and manufacture of beet, cane, maple, and corn sirups and sugars, adulterations of sugars, sugar substitutes, and health questions in connection with the use of sugar in table foods; confections, and beverages.

Projects in the making of ice cream or sherbet

should include consideration of the principles of refrigeration, and of the food and health questions in connection with frozen foods.

Vinegar may be used for the preservation of some fruits or vegetables from the school or home garden. A project in vinegar making may be carried out from the making of cider from apples in the fall through the fermentation process. This may lead into the general question of ferments. The souring of milk, the use of rennet, of yeast, and of the acetic ferment have now all been observed as useful forms of fermentation. There have also been noted the various forms which are harmful and how to prevent or delay their action, as by sterilizing in canning, pasteurizing of milk, and other methods.

In connection with various food problems, the uses of spices or other condiments have occurred. The sources, production, use, and health questions relative to condiments may be considered in this grade. A number of interesting questions about spices will be answered by geography and history.

In projects in finding the cost of foods, such questions as the relative cost of baker's bread and homemade bread, of canned meats and home-cooked meats, of different ways of cooking meats, will raise the problem of the cost of fuels and the cost of labor. From this may come the project of making a school or home fireless cooker.

Grade VI. — In luncheon and home projects, bread

and cake may be included, leading to questions of methods of preparing doughs and batters; of methods of lightening doughs by the use of air, eggs, baking powder, soda and sour milk, and by yeast; and of baking and the problems of ovens and stoves. The planning of meals will require attention to dietaries — to organizing food values so that meals may have an approximate balance and be sufficient in calories. The closely related problems include questions of substitutes for meats in food values; the relative cost of milk, eggs, meat, cereals, and vegetables; the cooking of left-overs; buying in season; and methods of marketing. Tea, coffee, and cocoa as parts of meals require considerations of both food values and health.

In connection with the study of the home life of the early American colonies, colonial foods and cookery may be illustrated by a luncheon with such foods as brown bread, baked beans, Indian pudding, pickles, corn bread, or other foods appropriate to the particular region — New England, New York, or the southern states. In connection with this, candle dipping, or making candles by molds illustrates the use of fat as a food by-product.

Projects in finding out more about the commercial production of foods will require many visits and lead to the discovery of conditions which make evident the need of civic and social control and awaken the sense of personal responsibility. Emphasis should be placed upon the conditions and problems which

show the need for intelligence in selecting, purchasing, and using foods with economy and safety to health, and for exerting one's influence intelligently in helping to secure conditions of fairness, justice, and well-being to those producing foods and food products in agriculture and industry, as well as to consumers.

Projects in Utensils

Grade I. — The furnishing of the doll house or play house will require dishes which may be made of clay by the children. Questions of form in relationship to use will call for study of dishes at home and may lead to visits to stores or shops to see table and kitchen wares. The storage of seeds from the school garden, and the needs of boxes for use at school sales or at holiday occasions may require the making of simple boxes of paper or cardboard.

Grade II. — The table service problems may lead to the making of more dishes with greater attention to form and finish than in the first grade. If stories of the lives of primitive peoples are used, the early use of clay in making utensils for carrying and storing foods will be of interest. The story of Grandmother Kaolin will be appreciated. Very simple baskets may be woven and used in connection with garden products or festivals. Stories of primitive basket making will be of interest. Candy and nut gift boxes of cardboard may be made at Christmas time or at other times as needed.

Grade III. — Bowls made by the coil method in connection with studies in foods and related to Indian life with attention to decoration and the meaning of symbolism in decorating may be projects for this grade. If the early Hebrew peoples are studied, one interest will be in their pottery, including lamps, inkwells of scribes, and other utensils in connection with school needs and in relationship to the problems of early peoples. Comparisons of the present kinds and forms of utensils with those of early peoples lead to investigations of utensils in the home and community. Utensils of wood and stone, as the mortar and pestle, of skins, as the Hebrew water bottle, and of metal, as bowls, pans, and kettles, will be noted as these come into use among early peoples. Needs for boxes will continue and offer opportunity for improvement in design and construction.

Grade IV. — For school needs, to be used as gifts, and in illustrating the industrial and art activities of Greeks and Romans, pottery making by the coil method with incised design, by the use of the one-piece mold, and by pouring may be carried out, leading to further comparisons of present-day and early methods and products. The applying of glazes and the firing of products should be included where possible. If clay is not available for pupils, demonstrations by the teacher with aid from pupils give much help in interpreting and appreciating methods and values in the pottery industry.

Fruit or waste baskets may be made of reeds, and this should lead to a consideration of the present reed or willow industries — for producing clothes baskets, waste baskets, chairs, and other willow, cane, or wicker wares. A window box of wood may be desired which will require simple box construction and lead to a simple study of the great needs for boxes of wood and other materials.

Grade V. — A project in finding out more fully how we are now provided with china and other pottery may include the making of a plate with underglaze design, and a cup or vase by a two- or three-piece mold. The molds may be made of plaster of Paris. Relationships to metal casting may be noted in this process. Pressed wares may also be demonstrated. The use of the potter's wheel in the present and among historic peoples will be considered in the investigation of the industry. Various methods of decoration, kinds of clays used, machine processes in commercial manufacture, types of American pottery, and locations of potteries, are all questions of interest which may easily arise. Both geography and history will be required to furnish needed information.

Copper bowls may be made, if facilities are available, and the commercial methods of producing utensils of metal, both modern and historical, may be investigated.

The needs of children for a case to hold bibliography cards may be met by making a cardboard bibliography case to hold perhaps two hundred standard

library cataloguing cards. This should lead to a study of the paper and cardboard box industries and of the factory methods and conditions of production.

Grade VI. — A project in making a cup, bowl, or vase of clay with the making of the glaze may lead to an investigation of glazes, and to consideration of the pottery industry in other countries. The chief characteristics of Italian, French, Delft, Dresden, English, American, and other wares may be learned in relationship to problems in the selection of table and other forms of pottery. Stories of the lives of Palissy, Wood, and Wedgwood naturally arise as problems. The making of a concrete flowerpot may be used to demonstrate concrete construction of utensils.

Bonbon boxes, glove boxes, jewel boxes, and other forms of fancy boxes may be made if needs arise, and the hand production of such boxes studied as found in industry. A need for a new bibliography cardcase may be met by making one of wood which may lead to a study of box making of wood in industry. Trays or bowls of copper may be made. The study of utensils made of brass, tin, iron, and other metals may lead to problems in repairing and call for simple soldering.

The studies in making utensils of various materials in this grade should include investigations reaching as far as possible into the present-day materials and methods of production, the values of different materials and forms of construction in relationship to value and

cost, to appropriate care of each kind of product, and the social and civic problems related to industrial production. Many problems in simple physics and chemistry arise in the work, and interest should be stimulated and directed in following these as far as the children can appreciate meanings.

Projects in Records

Grade I. — Projects requiring the use of booklets for mounting drawings, clippings, or written work, give rise to needs for very simple booklets which may be made by the children by folding several sheets, each once, sewing them through and tying, using the outside sheet for a cover. Discussion should be encouraged of uses and methods of magazines and books as means of recording experience. Decorated gift cards may be made for occasions.

Grade II. — For keeping such work as can readily be mounted, each child may make one or more booklets of loose leaves, punched and tied, adding pages as needed. Heavy cover paper may be used for the outside, appropriately decorated. Printed or written gift cards may be made for occasions. Among primitive peoples studied, the absence of written records and the dependence upon stories told from generation to generation may be noted.

Grade III. — Needs for keeping spelling lists and other work in word study may be met by making a cover of melton, or other board, joined by a cloth

hinge in which a pad of appropriate paper is held by wire or brass fasteners. Booklets of the same general form as for Grade II may be made as needed.

The methods of recording experiences of early peoples may be taken up in connection with the study of their activities and compared with our own. Records on notched sticks, by tying knots in strings, by stone piles, by picture writing, and by the development of alphabets are some of the interesting beginnings of record making to be noted as Indian, Hebrew, Egyptian, and Assyrian peoples are studied. A Hebrew scroll may be made by the children for use in dramatizing some of the Old Testament stories. Comparisons of book materials, book forms, libraries, and general reading facilities then and now should be made. The place of story telling and oral tradition as means of passing experience on from generation to generation should be noted in its place.

Grade IV. — The accumulation of pamphlets may occasion a need for binding some of these into booklets for more convenient filing and use. Written and mounted material may be made into a one-section book with a cloth case cover. Pamphlets as bound in the library may be examined as may also one-section books for helpful suggestions. The study of historical peoples may bring the stories of Cadmus and the Phœnician alphabet, of the use of wax tablets written upon with a stylus by the Romans, of the work of the scribes and the great development of book making

among the Greeks and Romans, and of the several large libraries of those times.

Grade V. — Needs for binders for holding note paper may be supplied by making binders of cloth board, buckram cloth, and cover paper, with hinge joint, and with eyelets for rings or for a string. Children may make paper from linen rags or wood shavings and use the product for making Christmas or Easter cards. They will illustrate the methods of paper making and open up the whole question of paper making, modern and historical. Mold and deckel for the hand-made paper may be made and comparisons noted between hand-made and mill-made papers. Such problems as the supply of wood, the conservation of forests, and substitutes for wood and rags naturally emerge in this study. In the study of earlier forms of paper and book materials and methods of manufacture, the following topics are of much interest: the Chinese invention of paper, the influence of the Mohammedans in spreading paper making, the Moors as paper makers in Spain, the influence of the Crusades on the spread of paper making; the hand-copied book; the work of the scribe in the monastery; and illuminated lettering. Desire may easily arise for the making of the materials used by the scribe, and children will delight in projects in illuminated lettering. Many questions will be asked of geography and history in this work.

The recording of readings on various topics gives rise to the problem of making and keeping bibliog-

raphies. The projects of using intelligently the results of modern library methods, of making card catalogues, and of keeping helpful bibliographies may be engaged in with profit. A bibliography filing case of cardboard with gummed-tape joining as suggested under utensils may readily be a part of this work.

Grade VI. — Accumulated material may be made into a book sewed on tapes with double end sheets, approximating the modern commercial method of making books. The mending, care, and rebinding of books belonging to the children or the school will offer projects which, when fully carried out, will acquaint them with many of the present-day processes in book making.

The interest in the printing of books and other forms of records and means of communication may lead naturally into projects in printing by both modern and historical methods. The block printing of the end sheets of a book, or of cards or calendar forms, using linoleum instead of wood, makes a good introduction to a study of wood-block printing, the development of movable types, the invention of printing, the work of Gutenberg, Fust, Caxton, and others, and the influence of printing on the spread of learning, as questions to be answered by history. This will lead on naturally to present-day methods for comparison: Typesetting — hand composition, the linotype, and the monotype; modern hand and power presses; illustration — woodcuts, zinc etching, copper plating, half

tones, steel engraving, lithographing, and color printing; and other processes used in newspaper, magazine, and book publications. Social problems and conditions, civic questions, and questions of vocational opportunities in the printing and publishing industries arise through situations revealed by the study of this field. The work should include visits to printing plants where possible. If the school possesses a printing outfit, the children may well engage in one or more individual or group projects in printing a program, a motto, or a small booklet. Electroplating may be illustrated by the plating of a paperweight cast of lead or babbitt metal, and etching and engraving may also be illustrated by projects which children will usually initiate. At the conclusion of this study the children may be interested in making a summary of record making from its beginnings to the present. The series of pictures by Alexander on the making of the book will be interesting in this connection.

Projects in Tools and Machines

Grade I. — The production of supplies to meet the needs for food, clothing, shelter, utensils, and records requires the use of tools and machines of various kinds. The making of these tools and machines is not often possible in schools, although a number may be made as indicated. But the larger problem relative to tools and machines for the elementary school is that of their proper use and care, and of understanding their purposes,

general means of operation, and advantages, industrial and social. A simple loom for weaving may be made in this grade. By usage, the children become familiar with scissors, needle, and thimble; and with saw, miter-box, brace and bit, hammer, screwdriver, ruler, and try-square. Questions of handling, care, and fitness of each tool to its purpose should be a part of the projects calling for the use of the respective tools.

Grade II. — New tools which may be introduced by usage are the chisel, the broom, the washtub and board, and the flatiron. Tools and machines observed or found to be used but not handled may include the ax, the vacuum cleaner, and, in large cities, the power street-sweeper, in connection with dust removal. In connection with studies of primitive life, children may wish to make stone hammers, fire drill, bow drill, throwing stick, and other primitive tools in dramatizing the activities of people studied.

Grade III. — In connection with cooking and serving luncheons, the tools used in eating may be noted — knives, forks, spoons, nutcrackers, and nut picks. In making butter the separator, the churn, and tools for working the butter may be considered. A loom with a heddle may be made for weaving. Connected with both present-day activities and those of Indians, Hebrews, and other early peoples studied, are many projects in making or interpreting tools and machines, as the use of the mortar and pestle, the hand mill, the treadmill, and modern milling machinery in grinding

grains, farming tools from the primitive digging stick, the flail, and the threshing floor to the threshing machines; the bow and arrow, the spear, the sling, and modern guns; traps for catching game and fish; snowshoes, sleds, and drags; canoes and boats; the wedge and inclined plane; and other tools and devices invented by early peoples in comparison with the tools and machines we use to-day to accomplish the same purposes. The children may be led to see some of the social consequences of changes in tools and machines resulting in increased production and reduced labor. Many principles of physics are involved in the use of these tools and machines, some of which may be noted, as the reduction of friction by sleds, elasticity as the propelling force of the arrow as driven by the bow, the buoyancy of water in supporting the canoe, the use of oars as levers, the sling in using centrifugal force, and the various splitting tools illustrating the use of the wedge.

Grade IV. — The projects in this grade include studies of tools and machines which illustrate many principles of physics and machine operation. The potter's wheel using the pedal shows the use of a simple lever and the change of the direction of motion shows the use of the bevel or the friction gear. The cranks in ice-cream freezers, churns, meat grinders, and grindstones, the capstan of a boat or ship; the cranks of hand derricks and cranes; and the cranks in automobiles and the pedals of the bicycle are all common-

place uses of the wheel and axle. For removing water from wells are the well sweep, illustrating the use of the lever; the windlass and the pulley, illustrating the wheel and axle and the crank; the chain pump, illustrating the use of the endless chain; the suction pump with its handle as a lever and the device of the valve; and the windmill using wind as a motive power and showing the change of direction of motion by gears, and the regulation of speed by the use of gear wheels differing in diameter. Vehicles of various kinds — wagons, carriages, automobiles, and railway cars — show the use of the wheel for overcoming friction. Ball bearings in roller skates, in bicycles, and in other machinery, show this principle used to reduce friction still more. Levers of the several kinds are everywhere seen in common usage — the lifting and adjusting levers in machinery, the singletrees and doubletrees on wagons, and in the levers of scissors, tongs, pliers, and pincers. In the windmill is seen the use of air in motion as a propelling force. In the airplane the reversed action of the blades drives the plane through the air, and in the boat or ship the screw propeller employs the same principle, using water instead of air as the resisting medium. Air as the propelling force is seen also in driving sailboats, and water currents as a propelling force in carrying boats and in turning water wheels. Wherever tools or machines are found in use in accomplishing purposeful activities the teacher should try to include whatever is new in

the application of principles which are within the range of the children. Children will often initiate constructive projects illustrative of principles, as a model of a windmill, pump, boat with screw propeller, airplane, or water wheel.

Grade V. — In this grade, the study of clothing includes many machines — the cotton gin, power machinery for spinning, power looms, knitting machines, and power machines for garment making in textiles. In cutting, shaping, inserting, sewing, and finishing shoes, many machines are also used. A model of the cotton gin and of a hand loom with heddle may be made in helping to get a clear idea of the use of the large power gins and looms. In building construction as observed many tools and machines will be noted, and these may lead to a consideration of lifting and other devices used both to-day and in the past. The crowbar, lifting jack, derrick, block and tackle, elevators, escalators, and the barber's chair illustrate respectively the use of the lever, the chain of pulleys, the endless chain, and hydraulic pressure; and the window weight, the drawbridge, and the portcullis illustrate the use of balanced weights. Concrete mixers, brick-making machines, machines for making concrete blocks, and automatic drilling machines will be observed in connection with the building trades. Plumbing and steamfitting tools will likewise be found in use in equipping buildings with heating and water systems.

In the shaping of wood for use in buildings, furniture, and implements, power saws, planes, lathes, drills, and other machines will be found. Here may be noted the adaptation to power machines of the simple principles earlier learned about knives, chisels, saws, planes, bits, and drills. The modifications of such tools for work in metals may also be studied at this time. To illustrate the work of the foundry, a paperweight may be designed, a pattern made, and the form cast of lead or babbitt metal.

In connection with the study of cereals, milling machinery may be studied briefly. The uses of different kinds of power — wind, water, and steam — in milling may raise further questions as to kinds of water wheels and means of transmitting power and changing the direction of motion, again considering belts, pulleys, chain gears, bevel gears, and pinions.

Timepieces may constitute a project in investigating means for measuring time from the shadow stick, sun dial, hourglass, and water clock down to the present-day forms of watches and clocks.

In some machines the use of compressed air will be found. Its use in the rifle and in machines may lead to a consideration of gases under pressure, and to modern weapons of war with their history, as showing the use of various propelling agencies.

Transportation, in addition to aspects noted in the foregoing, may include projects in canal and lock making, and in the general survey of all kinds of

vehicles, land, water, and air. Such studies will require much observation and reading. They will also ask many questions of geography and history. Biography should contribute much in considering the values of various inventions and discoveries. The social gains and also the social problems resulting from the development of machines, which set free the labor of many men, should receive much attention.

Grade VI. — In connection with the other practical arts activities, this year may be partly given to summaries, bringing together in some orderly way the perspective of the development of tools and machines, noting the various steps from the simplest beginnings to the modern complexity of mechanical devices. As new problems in each field are taken up, the contributions noted may be added to what has gone before. The general range of projects without much of detail include the following: The industrial revolution with its inventions of spinning and weaving machinery and of the steam engine; the development of the factory system and the great social changes resulting; the applications of the steam engine to railroads and steamboats; principles of the several forms of steam engines, the development of the applications of electricity in industry — to household conveniences, the telegraph and telephone; to transportation as used in electric cars, automobiles, boats, and airplanes; and to driving tools and machines in factories;

transportation with all of its facilities for comfort, speed, and volume, by land, water, and air, including the problems of various kinds of roadways, traffic regulations, and the social results of bringing remote districts into close economic and social relationship; modern agricultural machinery and its economic and social meanings; the microscope, camera, and telescope as used in practical life; weather-observing apparatus and the results from its development; stoves and furnaces and pressure cookers, gas and electrical heating, as used in providing buildings with facilities for heating and cooking; and weapons used in warfare and the changes in national and international life resulting from new weapons and methods.

Constructive or experimental activities to clarify ideas and make plain the working of principles are called for in nearly every one of these lines. Wiring for electric bells or telephones, or for motors, making a barometer and skiameter, caring for the sewing machine, making gunpowder, clock and clock repairing, repairing by soldering, sharpening edged tools, and inspecting and repairing tools and machines of all kinds in the environment needing attention are suggestive activities. The work of preceding grades and in this year should lead children to have a fair working knowledge of the practical, everyday applications of principles in mechanics, light, heat, electricity, water, and air. Projects should also include the finding of reasons why the factory system is necessitated by the increas-

ing development of power machinery in industry, why the increasing demands upon agriculture make the invention and use of farm machinery more imperative, and why household labor-saving devices are increasingly desirable, together with the more important civic and social questions resulting from the wider uses of machines in all fields of productive activity. Most of these problems emerge most directly in relationship to the respective occupations in producing food, clothing, and shelter. The work in geography is full of demands for illustrative constructions.

Principles for Selection and Organization in Practical Arts. — 1. The practical arts represent those activities by which man produces, changes, makes available, and uses the products which meet his needs for material supplies.

2. The elementary school curriculum should select from the practical arts those phases of each which relate to its contributions in increasing the amounts and the values of materials for usage.

3. The practical arts studies are of direct value in the measure in which they aid us:

a. To select and use material supplies economically, healthfully, and in good taste.

b. To coöperate efficiently as citizens in the promotion and control of production, distribution, and use of supplies, and in securing justice and fairness to producers and consumers.

c. To develop permanent interests in the processes

and methods of production and usage for the intellectual satisfaction which they afford.

d. To develop normal growth in essential forms of dexterity and bodily control required of all for general efficiency.

4. To secure the most effective values in the study of the practical arts much handwork is necessary. Such handwork is for the purpose of clarifying ideas by participating in methods and processes of production and construction. Manual dexterity is a subordinate aim which is accomplished largely as a by-product.

5. Design is an integral part of all constructive projects. All studies having to do with the development of principles of design as these apply in the selection and use of clothing, furnishings, utensils, and other material products should be made in direct relationship to these respective products.

6. Out of the practical arts projects emerge many questions of measurement, cost values, sources of materials, transportation, discoveries, inventions, and artistic, literary, and musical forms of expression. These questions of arithmetic, geography, nature study, history, and other subjects should be considered as largely as possible in direct relationship to the projects which furnish motives for them.

CHAPTER X

GEOGRAPHY

The Content of Geography. — In adjusting his life to his physical environment man has accumulated much knowledge about the resources and conditions of the earth which make them of most use to him. Progress has depended much upon the adjustment man has made to these earth controls. Geography is made up of this useful body of experience in discovering the resources of the earth and in discovering and inventing ways to use them. We cannot say that geography is an occupation or a series of activities as we do of the practical arts or other vocations. It is rather a body of facts, principles, and experiences which we use in carrying on the various pursuits of life. It is contributory information which helps to make thought and action intelligent and efficient, in our occupations and intercourse. It has values both for practical guidance and for understanding or interpretation. It furnishes a fundamental basis for appreciating our relationships with other countries and peoples and in developing desirable attitudes toward them.

With such a vast field of experience as has resulted from man's contact with the earth, there are naturally

many elements of little importance and many of great value. In the geography for the elementary school, selection is necessarily limited to those elements most useful in understanding our relationships to the various regions of the earth and to the peoples of those regions.

If we note briefly some of the earth conditions which control and determine human endeavors, it will help to indicate where the emphasis in geography study should lie to make its content of most service. The earth contains a wealth of natural resources, but it imposes certain unchangeable conditions under which these resources may be made available. Man must discover these resources and adjust himself to the conditions under which they may be used before he can benefit by them. He finds coal in some regions; he mines it and distributes it as it is needed. Cotton grows well in some regions only; enough must be grown in these regions to supply the needs of all. Some climates are cold; man adjusts himself to their rigor by the use of proper food, clothing, and shelter. Rainfall is insufficient for agriculture in some regions; man resorts to irrigation and reclaims some of these regions. Routes of travel follow waterways or land conformations offering least resistance. People make their homes where conditions offer the most favorable opportunities for living. The surplus produced in one region is exchanged for the surplus different in kind from other regions. To some regions many people are attracted by climatic conditions or

by the properties of water particularly favorable to health. Numerous mountains, gorges, waterfalls, forests, and other land and water forms are visited because of their peculiar beauty or grandeur or other unusual character. Everywhere man's life is a response to the controls of climate, distance, and possibilities of exchange and travel, determined by the very nature of the earth. Geography furnishes us the results of man's experience in making these responses or adjustments. For the elementary school, those elements must be selected which most clearly have to do with the everyday life needs of all.

The Relationships of Nature Study and Geography. —When reduced to its direct purposes, the work usually given under the term nature study relates to economic values, health values, æsthetic values, and intellectual appreciations or interests. Economic values are immediately approached through projects in the practical arts where many problems relate to the principles and controls affecting the production and use of foods, clothing, and other supplies. In the same relationship many of the health values also appear, as in questions of insect pests, preservation of foods, and disposal of waste. Some of these questions, as in personal hygiene, ventilation, and lighting relate to problems in physical education. The operation of physical forces is directly approached through problems in the practical arts and industrial and commercial geography. The æsthetic aspects of nature relate themselves closely

to interests in the fine arts. The element of intellectual interest and appreciation is a quality or factor appearing in connection with nearly all natural phenomena, whatever the point of contact.

It is therefore evident that nature interests are so vitally a part of experiences having values in relationship to purposes included in other fields that practically everything of interest and worth is approached through these fields. Having followed the leads of interest and value required for the practical arts, geography, physical education, and the fine arts there is little content left for nature study as such in the elementary school where no attempt is made to organize science as science. By these approaches the significant values of nature study are realized in the most effective way.

As geography deals with earth controls and our responses to these controls, much of the material of biological and physical nature study is required as parts of problems in geography. Although these problems are approached through projects in practical arts, physical education, and the fine arts, the appropriate treatment of them will indicate their logical relationship to the broader interpretation of geography, as they are elements in the earth controls which condition many of the activities of life.

Because of these facts, nature study material is here given no distinct organization of its own, but its problems are included in projects in geography and other fields in which they directly arise.

The Uses of Geography. — As suggested in the foregoing paragraphs, the study of geography yields two kinds of information, practical and interpretative.

Practical knowledge as applied to agriculture, mining, and industries using immediately available raw materials, has to do with local resources, climatic controls, and market facilities. For trade and transportation the practical knowledge required is that of sources of surplus raw materials, centers of industrial production, markets, trade customs, and routes and conditions of transportation. For travel as recreation the practical knowledge needed is that of interesting features of climate, land and water forms, plant and animal life, and of the life and work of peoples of different regions of the earth. Such information is called practical because it is directly helpful in determining the action of those engaged in any of these pursuits of business or pleasure. Without the geographic knowledge relative to any of these particular forms of endeavor, one is handicapped in carrying it forward.

Interpretative knowledge is that which provides an understanding of the dependence of man upon earth resources and the relationships among peoples in making these resources available. All of that information which is practical is at the same time interpretative. But there is much contributed by geography study which is not directly practical in the sense in which the term is here used. Such studies include information concerning the sources of the various products

which we use but do not produce, the routes of travel by which they come to us, the markets to which our surplus products go and the routes by which they go, the earth conditions which make these differences in production and which determine methods of transportation, and the life conditions, occupations, recreations, and characteristics of the peoples living in those regions distant from us yet related to us by exchange of products and often in many other ways. Interpretative values lie also in knowledge of the earth controls that have determined much in the acts of historic peoples who have contributed to the development of the race and through which we are helped to understand the life currents of our own time. All interpretative knowledge is social in character, helping us to a fuller appreciation of human interdependence. Geography helps us to realize how we ourselves are living more comfortably and happily because of the products we receive from the work of others in all parts of the world, and how our products in turn are useful to many of them. Not only is this true of material commodities of exchange, but also of much in music, art, literature, and other forms of recreation which we interchange. From this knowledge of common purposes and interests we trust there may develop a larger spirit and attitude of neighborliness and friendship among us all as peoples. From a better understanding of our common interests we may hope for a larger degree of personal responsibility

in cultivating relationships of coöperation and sympathetic understanding with all our world neighbors, near or remote. The right kind of study of geography should be one of the strongest influences in the school and in life for bringing about a condition of permanent world peace.

Geography therefore represents a large body of knowledge of both practical and interpretative value. In the elementary school, both kinds are needed, but the interpretative values receive the greater emphasis. The problems arising in geography out of which develop the attitude of interdependence among peoples of different regions are largely economic — industrial and commercial. Most of these emerge naturally from the projects in practical arts. But there are also problems in geography arising in connection with literature, history, art, music, and the plays and games of other peoples. Geographic information will be found to play a large part in interpreting many forms of human activity when the dependence of conduct upon earth controls is more fully appreciated.

The Sequence of Content in Geography. — There are many possible sequences for the material of geography. In using many practical arts projects as leads to information required of geography the question may arise, will not something important be left out? The question is valid, and, as in all work making extensive use of projects, the teacher needs to make frequent reference to some rather well organized body of content

to keep the perspective and sense of relative values clear. Guidance in the selection of projects which call for information of geography may be such as to result in any sequence of geographic material thought desirable. The activities and interests in any school grade are such that they may be directed to lead into any region in the world. Our dependence for products or markets and our interest in the activities of peoples are so great and so world-wide that immediate interest may be turned in any desired direction. Referring to an organized body of material, the teacher may ask at any given point in the elementary school, what is fundamentally worth while, what is most needed at just this stage in the development of the children, and, considering their previous experience, what are they capable of asking of geography that will most promote their growth in the use of such material? By the answers to these questions she may so direct the projects of the children as to select the material of geography most needed. Many questions by the children will naturally emerge which cannot best be answered at the time they are asked. Some desirable questions may fail to emerge and require stimulation by the participation of the teacher in creating situations out of which the desired questions will arise.

A sequence which has been found to serve well as a general plan for meeting the need of projects in the practical, social, and recreational activities of a community is here suggested, but other sequences might

be as readily followed. It is not offered as a best plan but as a very good one. By this plan, the first three years' work concerns questions of local geographic controls. In the stories of peoples of other lands, and in those of primitive or early peoples, often dramatized through illustrative activities, such comparisons are made of the geographic controls of these peoples with our own as children may understand. In the fourth year, the main emphasis is placed upon the industrial and commercial activities of the United States, and in the latter part of the year, upon projects which lead to a conception of the world as a whole. The fifth year includes the study of North and South America, with some projects leading to questions of the relationships of industry, markets, and trade with Europe and, in smaller number, of Asia and Africa. The sixth year emphasizes the geography of Europe, Asia, Africa, and Australia, but with much reference to occupations also found in the Americas, making the work a form of comparative geography. In all of these later grades, as in the first three, the geographic information required in the study of history or current events is very considerable. Few indeed are the topics in history and current events which do not require the use of maps and information of geographic controls.

Projects in the Principles of Geography as Such

While the questions of geography in daily life and in school are almost wholly connected with practical or

social or recreational activities, the use of this body of knowledge as a tool in readily answering these questions requires the development of some principles and of some organization of those fragments of knowledge which satisfy the needs of many individual projects. Projects therefore arise in finding out what such principles are, in mastering them, and in organizing from time to time those more isolated elements of information which together may be made into a unified whole. The principles of geography include such questions as those of wind systems, ocean currents, the laws of storms, the causes of seasonal changes, the effects upon climate of latitude and altitude, the relationship between rainfall and agriculture, and others. Projects in organization have to do with comparisons of regional areas on the basis of common conditions of climate, resources, or occupations; with political and racial units of population; with systems and comparisons of routes of transportation; with the effects of resources and climate upon the occupations, habits, and attitudes of peoples; and with other questions in much variety. In the fourth, fifth, and sixth grades projects will frequently lead to situations which illustrate these general problems, and, when a sufficient basis has been developed, the situation may be so directed as to result in the elaboration and mastery of a principle, or the organization of some general fund of fragmentary knowledge which thereby becomes more effective and usable.

Projects Requiring Information of Geography

Grade I. — Clothing and housing projects raise questions of appropriateness of various materials and forms of construction to seasonal conditions. Changes of food and of clothing as the seasons change, the preparations for winter in autumn and for summer in the spring months, and adjustments to weather at various times call for simple explanations of geographic controls determining and conditioning these changes. Visits to various places in the community, and the daily goings about of the children used in discussing the activities in which they are interested, call for the naming and understanding of hills, valleys, creeks, rivers, ravines, plains, mountains, and such other topographic features as the environment affords. Effects of weather conditions upon the school garden and upon the occupations and comfort of people may raise questions about causes of such conditions which may be answered in simple but stimulating form. Terms and situations in stories will call for occasional interpretations and explanations of geographic features or controls. Sand-table projects in illustrating story situations help much in questions of topography.

Grade II. — The projects with food, clothing, and shelter continue to raise questions of adjustment to conditions of weather and seasons. The studies of early peoples and of peoples in other lands whose foods, clothing materials, and building materials differ from

ours, raise questions which can be answered only by reference to differences in climates, soils, resources, or characteristics of peoples. To make these references clear, constant comparison with the home environment is required. The usage made of our own local resources — soils in raising plant and animal products, clays and stone in building or pottery, and facilities for transportation on waterways and by making roads — becomes gradually evident in explaining activities. It likewise provides a growing basis for appreciating the dependence of peoples upon earth conditions and means used in adjusting them.

Grade III. — School gardening and projects in supplying ourselves with milk and other dairy and live-stock food products require considerations of climate, weather, soils, and transportation in the immediate locality and the neighboring areas from which such supplies are received. The degree in which the community supplies its own foods requires investigation of the local production of farm and garden crops, fruits, and beekeeping. By noting also the foods of which a surplus is produced, what becomes of this surplus, and foods used in the community but not produced by it, some appreciation is developed of the meaning and importance of problems in exchange, transportation, and interdependence. Studies of the occupations raise many questions in comparing the geographic environment of others and our own which partly account for the differences in foods and other

materials and in occupations and habits of life. Studies in clothing and in shelter and furnishings raise many similar questions of geographic control. Maps of the immediate neighborhood and other maps extending beyond, indicating sources of supplies or markets near by, may be made and helpfully used in clarifying ideas of land and water forms, occupations, and transportation. Constant use of maps in considering the sources of some commodities and in talking of places visited by the children or read about may lead to a conception of the general outline of the home state and the United States, of a number of more important points within these, of some very general notions of states, countries, and bodies of water bordering our own state and country, and of the value and method of using maps. Tracing food products through markets to the farms or distant areas producing them; clothing materials through stores to the cotton fields or sheep ranches, with some general details of their production; woods used in buildings and furnishings through lumberyards to the forests; bricks to the brickyards where they are made; stone to the quarries; and clays used in dishes, metals used in hardware, and fuels for heat and light through local markets to the factories and mines, always using maps, is a means of developing a sense of geographical and occupational interdependence and of the reality and meaning of geographic controls. The more detailed the study of the occupations and projects of the home com-

munity and its immediate environment, with the reasons why these activities may be carried on because of resources, climate, and location, the better the basis made for interpreting the meaning of occupations, controls, and relationships of distant localities. Local facts of immigration and emigration raise questions of the nationality, homes, work, and reasons for change of homes by immigrants, and of the reasons why other localities appeal to those who emigrate.

In the study of local production both helpful and harmful forms of wild plant and animal life should be regarded as a part of the geographic environment. Useful forms include fruits, nuts, woods, game, and most birds. Harmful forms will be recognized in weeds, poisonous plants, insect pests, and destructive rodents or other animals. These should be taken up in definite connection with questions to which they relate. Emphasis should be placed upon methods of promoting the growth of those that are useful and exterminating those that are harmful.

Grade IV. — Projects in the practical arts may now be so directed by the teacher as to lead into related problems in the more remote sources of some materials in each field, and to consideration of the geographic conditions determining the location of their production and their transportation to us. Selection may be of such materials as are distributed widely enough to lead to a view, first of the United States, and then of the world as a whole. By the free use of maps, globes,

the sand table, and pictures, the more significant features of location, extent, and general relationships of land and water bodies and of most of the countries of the world are learned. This knowledge of location is thus developed in connection with these studies of commodities, travel interests, and of the settings of historic events and monuments. Local excursions furnish many details for comparison. Local investigations have revealed the fact that we receive many materials and products not locally produced. Following the routes of these to their sources of production, considering the geographic conditions determining their production, learning something of the countries and home life of distant peoples whose products and efforts contribute to our well-being, broadens the conception of geographic controls and life responses, and increases an appreciation of the interdependence of all of the peoples of the earth.

Selections will differ in different communities and under different conditions. The following are suggestive of selections which will give this conception of relationship to the United States and the world as a whole: Studies in foods include rice and sugar, leading to the southern states; cod fishing, to the Grand Banks; salmon fishing, to the Columbia River Region; oysters, to Chesapeake Bay; oranges and bananas, to Florida, California, and Cuba; grains and livestock, to the western and northern United States and also to Argentina, Australia, and Russia;

cocoa, to Africa and the Pacific islands; coffee, to Mexico and Brazil; cheese, to Holland; tea, to China and Japan; figs, dates, and olives, to the Mediterranean countries; and macaroni, to Italy. Projects in clothing include studies of cotton, leading to southern United States, Egypt, and the sea island centers of production; wool, to western United States, Argentina, Australia, and the Mediterranean countries; silk, to France, China, Japan, and India; felt and fur to northern United States, Canada, and northern Europe; leather, to western United States, Argentina, and neighboring countries, and Australia; rubber, to Brazil; pearls, to Ceylon; diamonds, to South Africa; and ostrich plumes, to California. Our uses of other materials point to studies of woods used in buildings and furniture, leading to the forests and lumbering industries of the United States, Canada, and Central and South America; of pottery, to Massachusetts, New Jersey, Ohio, Illinois, Colorado, France, England, Italy, Austria, Germany, China, and Japan; of hardware, tools, machines, cutlery, and jewelry, to the iron mines of the United States, England, France, and Scandinavia, and the copper, silver, and gold mines of the United States, Alaska, Mexico, South America, and Africa; and of clocks and watches to eastern United States and to Switzerland. Studies in connection with the evolution of industry include the geographic features and controls of Greece, Rome, and the Mediterranean countries generally, if the

stories of these peoples are a part of the work of this grade.

Grade V. — Projects in the practical arts give continued opportunity for leading to various regions providing sources of materials or markets for products. Emphasis may now be placed upon questions which lead to a more intensive study of the geographic controls of activities, and consequently to more restricted parts of the earth's surface. The topics selected are largely limited to the production of materials and products of the United States and the Americas. If later Roman and early medieval European history are studied in connection with the evolution of industry, as one large phase, a number of problems in the geography of Europe will naturally arise. In the study also of each important industrial material produced in the United States, there are included questions of exports, imports, and foreign trade routes and relationships, so that contact is relatively constant with the world as a whole.

Studies of larger range, connected with the practical arts projects and approached through them include: The production and disposition made of the agricultural crops — wheat, corn, hay, rye, barley, rice, potatoes, fruits, and garden crops; of stock raising, to include cattle, sheep, horses, mules, hogs, and poultry; of lumbering; and of mining. With each of these are included the problems of manufacture of its raw materials into finished products and the com-

merce, domestic and foreign, resulting from the distribution and exchange of materials and products.

In some detail the project in finding out how we are provided with wheat and its products in the United States, would, in addition to the processes of manufacture and direct preparation and use as food, include considerations of: Conditions favorable to growth; leading wheat regions of the central and northern states; milling and shipping centers, as Minneapolis, Duluth, and Buffalo — due to cheap power, proximity to wheat fields, and ease of transportation; export to European countries; transportation to the eastern coast by the chief railroad and water routes; cities leading in export trade; Pacific coast wheat regions; export to Great Britain by way of the Panama Canal; export to Asiatic ports; and centers of Pacific coast trade. All of these questions are considered in relationship to the geographic controls which are responsible for the facts as found. For coal and iron, such questions are included as the location of coal fields, of iron fields, the relationship of coal to the iron industries, the centers of iron manufacture, and exports and imports of iron and steel products. Other products of metal and mineral raw materials — copper, silver, gold, petroleum, precious stones, sulphur, zinc, lead, salt, graphite, talc, stone, and pottery and glassware — are treated in a similar manner in such detail as their importance warrants. Through the study of many occupations included in the practical arts, the

main facts have been brought out regarding the location and character of the chief manufacturing industries. A project in summarizing and somewhat systematizing these facts is now desirable and possible. Questions of the rank of the United States as a producing and manufacturing country; of the reasons for its rank in material resources, in transportation facilities, capital, and inventive talent; of its facts and problems of labor and of immigration; of its dependencies and their problems; of its trade relationships with other countries; and of its postal service and other facilities for communication are among those which may be summarized and systematized, largely by bringing together fragmentary information gathered in detail in connection with other projects.

Canada, Mexico, Central America, and South America are respectively studied after the United States, each approached through some tie of vital relationship to us in meeting some need. The survey of the important questions of geographic control, in determining the activities and conditions of its peoples, is relatively brief for each region, but, after so much detailed study of particular occupations and of our own country, the essential elements are obtained with relative ease.

The large regional divisions of the two continents are noted — the Atlantic coastal plains, the Appalachian Mountains, the central plains, the Rocky

and Andes mountains, the great plateau, and the Pacific coast lowlands. In considering soils, glaciation is taken up in connection with those regional divisions which were affected by glaciers.

Current events are the occasion for very frequent questions of geography, extending to all parts of the earth. The constant use of maps and of noting the earth controls in relationship to these events is a means both of using knowledge already gained as a means of interpretation or explanation, and of gaining new knowledge that is helpful.

Grade VI. — Practical arts studies, problems in history, and current events include questions which can be answered only in terms of the geography of other countries. The work of this year is an intensive study of Europe, Asia, Africa, and the Pacific Islands. At the opening of the year, a project leading to South America from which may develop a study of the wind system of the world with special reference to the climate of that continent is desirable as furnishing a basis for an interpretation of climatic conditions of the other continents as they are studied.

Questions of especial interest in the study of Europe are those dealing with our exports to Europe — of raw materials, and of finished products — and determining why these exports are needed by the countries to which they are sent; with our imports from Europe and why they are produced more abundantly or cheaply in Europe than here; with immigration —

different nationalities entering this country from Europe; why they come; their occupations and standards of living, their governments and religion, their literacy and illiteracy, and the problem of their assimilation and Americanization; and with points of historic or scenic interest in Europe.

Projects for the other continents and countries are reached through the same points of contact — our imports from them, our exports to them, immigration from them or emigration to them, and scenic or historic interests. By the constant reference to conditions and controls in our own country, and to other regions which have been studied, the geography work of this year should be very largely comparative. Projects in gardening or other forms of agriculture should continue to raise questions of weather influences, and questions on the understanding of the causes of weather conditions should lead to the study of weather maps, the methods of the weather bureau, and the uses and construction of the barometer, skiameter, anemometer, and rain gauge. In connection with the influence upon occupations and needs occasioned by changes of the length of day and night and of the seasons, the causes of these changes may be taken up.

The Larger Field of Geography. — This general sequence provides an acquaintance in the elementary school with all of the countries in their more intimate relationships to our own well-being, to our interest in their resources, occupations, attitudes, and habits

of life, and to the mutual helpfulness of our intercourse with them through trade, travel, and the interchange of ideas and experiences. The emphasis has been upon the basis of relative importance — a result working out naturally when those activities and geographic controls only are considered which have to do with the occupations of peoples in relationship to our participating in the fruits of their enterprises. There is much remaining in the field of geography for which there has not been time in the first six grades, and which can only be appreciated fully by more mature minds already prepared by the work of the elementary school. Geography is indeed a larger field, offering much that is of great importance for students in high schools and colleges. Commercial and industrial geography are of primary significance in the further development of our economic and trade relationships, and physical geography is essentially helpful in the larger development of our economic resources. The work in the elementary school has been selected to give as much as is reasonably possible of the values of geography for children, and to awaken and develop interests which will lead on to its continued study in higher schools and in life outside of school.

Principles for the Selection and Organization of Geography. — 1. For the elementary school there should be selected from geography those parts relating directly to earth controls which determine our activities

and earth adjustments by which we utilize the resources of the earth and adapt ourselves to its conditions. Studies in geography should help to give us a clear understanding of the interdependence of peoples living in regions differing much in resources and conditions, and should satisfy an intellectual interest in earth phenomena.

2. Projects in which factors relating to geographic controls are prominent should be a part of the work in all of the elementary school grades. Geography should include those phases of science or nature study which consider meteorology and climate as related to the control of plant and animal life.

3. Projects in the practical arts and other activities of the immediate environment relating to foods, clothing, shelter, transportation, climate, weather influences, and plant and animal life provide the motives for many of the studies in geography in the lower grades. Relationships to more remote states and countries through products and markets which they afford, through historic and scenic interests, and through interests in other peoples provide avenues of approach to problems in geography in the middle and upper grades.

4. The respective regions of the earth should receive attention, each in proportion to its importance in relationship to ourselves and to the life of the present-day world.

5. The sequence of regions or countries may vary

much, excellence depending upon how nearly the work, year by year, relates to the problems which require materials from geography for their solution, providing that by the close of the elementary school period the points of relatively large importance for the world as a whole have been covered.

6. Within any organization as to the sequence of regions or countries there should lie a sequence of points so brought out and understood that they will form the data for the development of the essential principles of geography.

7. Principles of geographic control are developed by the discovery of earth forces operative in specific situations, and through the multiplication of these examples discovering the common factors which may then be organized and formulated.

Principles for Selection and Organization of Nature Study. — 1. The use of nature materials should be in response to needs growing out of life situations and conditions.

2. The direct needs for most nature studies grow out of projects in the practical arts, geography, physical education, and the fine arts.

3. The kinds of situations requiring nature materials are those in which its values may be classified as economic, hygienic, and appreciative. The appreciative values are æsthetic or intellectual. They have to do with the pleasure we derive from natural beauty or with the satisfaction we experience from

learning the what, the how, and the why of natural phenomena.

4. If a content, called nature study as such, is organized, it falls to pieces when we take up life projects and go to nature for aids in carrying these projects forward. Economic values are covered by agriculture, industrial arts, commercial arts, and geography; hygienic values are included in physical education and the practical arts; æsthetic values are closely related to the fine arts, the practical arts, literature, and music; and intellectual interests are inherent in all such projects. After all of these values are satisfied there is nothing left that can be assigned value in any terms having pragmatic meaning. When interest and activity are concerned with direct values the development of mental capacities involved takes care of itself as a by-product.

5. Since the content of nature material is so vitally a part of the geographic controls conditioning the practical-arts activities and interests represented by other fields in the curriculum, the problems in nature study should be included as parts of the projects in those fields in which they arise. All material in nature study in this curriculum is therefore included under projects in geography, the practical arts, and all other fields which involve problems in any form of reference to nature.

CHAPTER XI

ARITHMETIC

The Uses of Arithmetic in Promoting Experiences. — In everyday life, the facts and processes of arithmetic are used only in situations requiring relationships of measurement in units of quantity or value. The simplest and least difficult question is that of mere serial order — how many? Beyond this are the questions of how much, in terms of inches, feet, pounds, dozens, and so on, and at what cost, or profit, or loss, in terms of money values on the basis of these various units. The general daily uses of arithmetic are chiefly those concerned with the measurements and values of the goods used for food, clothing, furnishings, utensils, tools, and the means of communication, transportation, and recreation. In supplying ourselves with these or in supplying them to others, arise most of the problems calling for the use of number as a tool. In interpreting the meaning of situations of which we are a part, or of which we read, a knowledge of number is required, often involving quantities, values, and relationships quite beyond those which enter into our direct manipulation of amounts and processes. For direct usage as a tool, habits of mental manipulation highly accurate

and rapid are required; for interpretation, an understanding of meaning and significance only is necessary.

Surveys of the social usage of arithmetic [1] emphasize the relatively small range of kinds of situations calling for the use of arithmetic, the relatively small quantities and values involved, the relatively small number of processes, and the great frequency with which these processes recur. Such surveys show a fair degree of proficiency in the manipulation of processes as such — a possession of the facts and processes of arithmetic — but they show also a deplorable want of knowledge of how to use these processes in solving many of the important problems of daily life with economy and efficiency. The work in the schools has developed the tool without teaching its use. When we recall how largely the work in arithmetic has been taught as a thing apart and separate from the situations in life in which it is used, the result is not surprising. The remedy lies in developing the facts and processes of arithmetic as parts of projects requiring their use as tools and means of interpretation.

The largest practical problem for any of us requiring the use of arithmetic, is that of the expenditure of money in securing values in food, clothing, and other material goods which we use. To do this involves a knowledge of what constitutes value in foods from the

[1] Wilson, Guy M. *The Social Usage of Arithmetic, Bureau of Publications*, Teachers College, Columbia University, New York City, 1919.

standpoint of nutrition first, and second, the costs of various methods of preparation and the use of these food units; of what constitutes value in textile and other clothing materials from the standpoint of appropriateness to purpose, durability, and taste; of intrinsic values for their respective purposes and of relative costs of furnishings, china, utensils, and other goods in common usage; of the advantages and disadvantages of various methods of buying; of the reasonable distribution of incomes; and of the making of budgets. In addition to these are the common important problems of insurance and other forms of saving and investment; of the care of health to promote efficiency and avoid loss and expense by unnecessary sickness; of the relative values and cost of different amounts and kind of education; of the numerous kinds, values, and costs of recreation; and of the effectiveness and desirability of various forms of philanthropy or benevolence. All of these problems have a fundamentally economic aspect, and all of them may and should constitute projects whose resolution cannot be satisfactorily accomplished without the use of arithmetic — the application of facts and processes in the measurement of quantities and values.

The Development of Arithmetic as a Tool. — The need for arithmetic as a tool appears only when some project is going forward which requires measurement of some kind. Children do seem to have an intrinsic interest in rhythm which finds satisfaction in the

number order, the serial relation, and they very generally learn to count through the exercise of their play interest. But in situations calling for the use of number as a tool, it is the *relationship* that is important, not the mere quantities or values in themselves. The relationship must be one which has consequences, which is connected with a purpose. In merely using beans as objects in developing number, it makes no difference whether there are two pints or three pints. But, if it is desired to make six bean bags, and each bag requires half a pint of beans, a relationship is evident that makes it very important how many beans there are. The measurement by the ruler of twelve inches on the board which is to be one side of a small hand loom is a situation in which the correct relationship of length is important in getting the result. In finding how much money each is to bring for milk for a luncheon, when a quart of milk costing ten cents is enough for five children, the relationship, one fifth of ten cents, is important. In general, it makes no difference what one fifth of ten cents is, but here the relationship is definitely required.

When the situation reveals a need for a relationship that is new, it must be taught — the child must be given such help as he needs to discover and use the fact, process, or method required. But this will not generally be sufficient to make the relationship permanent in his mind. It is a relationship that is exact. It is one of a number which differ from each other very

little in detail. In the project as a whole it is but one of a number of elements. There is need, therefore, of developing such a mastery of the new fact or process that its future use will be accurate and rapid when a situation arises calling for it. Illustrations of its use in situations in which other elements are different, making clear its general character, should be provided by the teacher — not as a part of the project of finding the amount of money to be brought for the milk, for example, but growing out of this situation and connecting with it in the child's mind. Ultimately it is desired that in any situation requiring it, the response, "one fifth of ten is two," will be practically automatic. Illustrations of the kinds of situations in which one needs to find one fifth of ten, and to show that, regardless of what the ten units are, the relationship is the same, will develop the general character of the relationship and will develop it in connection with kinds of situations in which one is required to find it. It still remains to develop a mental habit of automatic response — two, and only two, is one fifth of ten. That some drill work is necessary — attentive repetition to fix in memory or to establish the mental habit — will readily be seen by children and will be entered upon as a project in itself when its value is thus appreciated.

Four steps thus appear in the development of the facts and processes of arithmetic as tools:

1. Experience in which a quantitative problem is a

part and which cannot go forward until this problem is solved.

2. The solution of the problem as a part of the larger project and its use in forwarding it.

3. The application of the fact or process in illustrative problems in which other elements differ to show its general or universal character.

4. Practice through attentive repetition in making the response with accuracy and rapidity in abstract situations to develop permanence in memory.

The amount of time devoted to the fourth step will vary greatly with different facts and processes. But, for the fundamental facts of addition, subtraction, multiplication, and division, and the methods of their operation, much and frequent repetition will be required to secure the desired permanence and rapidity of accurate response. As usage of processes increases in meeting the needs of projects of everyday importance, the applications of general principles and methods will tend to provide almost enough practice in their use to make drill work unnecessary. In any case, only that drill is educative which is appreciated by the children as of worth, because it helps as a tool in furthering projects in meeting genuine needs. It may be that children will express an interest in number processes and in abstract or imaginary problems. Interest easily develops in number *as a game* or competition which may lead to its use as a recreation activity. But any such interest, furthered at all ex-

tensively, tends to arrest mental development in *the use of number as a tool* for meeting effectively the real situations in life. Such game interests in number are almost wholly formal and quite isolated from any life situations in which their processes might be helpfully employed.

The very large problem in making arithmetic a tool for daily use in projects of life which require a knowledge of values and of the measurement of values, is to provide participation in school in the practice of carrying out such projects.

Sequence in the Principles and Processes of Arithmetic. — The experience of many years has rather definitely fixed the sequence in which the various facts, processes, and principles of arithmetic are taken up in school. Roughly this sequence is based upon what has been thought to be the order of ease with which children are able to learn and use the materials of arithmetic. There is now some doubt as to whether this conventional sequence is that most harmonious with the growing minds of children. Some experiences indicate that other sequences for some parts of the work are quite as natural. Much remains to be done to establish scientifically the order of development which is most pedagogical. By the use of projects in which various needs for the use of arithmetic may arise, evidence may be secured which will be helpful in determining a natural and effective sequence. Any problem arising which the children seem to have the

ability and the previous experience for solving, may be attempted by them, the teacher offering such guidance as is necessary and judging by results whether to undertake the more thorough learning of the process.

The assumption here made is, that in general, the sequence found in the usual text books in arithmetic will be approximated. The teacher necessarily must avoid situations which will involve problems in arithmetic entirely too difficult for the children, excepting in those cases where she herself furnishes the solution and relieves them of any responsibility for it, as will often be the case in the lower grades. In general, the children should solve every problem naturally arising of which they are capable. Keeping their capability as it exhibits itself well in mind, will very largely be the means by which the teacher will direct the sequence of facts, principles, and processes taken up.

Projects Requiring the Use of Arithmetic

Grade I. — The number of groups of things of a kind all about the child stimulate his interest in counting, and he develops the notion of serial relations almost incidentally without reference to any specific projects. Reading numbers as found on pages of books, on calendars, on street signs at corners, on houses, and as they appear in many other situations, gives opportunity for learning the number symbols. In the study of the clock face the Roman numerals to XII are learned.

Measurements in projects in foods, clothing, and the supply of other material needs, as noted under the practical arts, will involve the use of the inch, foot, yard, half inch, and quarter inch; the pint and the quart; the pound and the half pound; the dozen and the half dozen; and the cent, nickel, dime, the quarter, and the dollar. The fractions, one third, one fourth, and one fifth, may occur. In this year very little time will be required for number projects as such. The range of quantitative facts and relationships needed is not large, and their meaning is so inherently apparent in the projects in which they occur that usage without much formal repetition is sufficient to fix them in memory. Near the close of the year several short periods a week may be used for summaries and practice if projects requiring the number facts and processes reveal a need for greater facility.

Grade II. — The measurements required in constructive projects and in projects including considerations of the cost of foods, clothing, and other supplies will, in addition to those units used in the first grade, call for the gallon, peck, and bushel; and the time units, minute, hour, day, week, month, and year, although these were used earlier as terms without definite consideration as units of measurement. The measurements of length, weight, volume, and value, are called for as parts of projects in finding how we provide ourselves intelligently, economically, and effectively with supplies. The excursions to groceries,

bakeries, butcher shops, clothing stores, and other places, where supplies are sold, include definite attention to the tools of measurement — rulers, yardsticks, tape measures, scales, pint, quart, peck, and other baskets or boxes for dry measure — and to the prices for respective units of measure used as the bases of scales.

Projects in thrift, by the purchase of savings stamps and in other ways, in score keeping in games, in costs of seeds for the school garden and sales of its products, and in all other phases of work involving the use of number, should be noted for the needs which they present for new facts or processes or for the more complete mastery of those whose meaning is already known. Help should be given for gaining the efficiency which these enterprises require.

Needs in expressing and interpreting relationships will require the use of the symbols, $+$, $-$, $\times$, and $\not{c}$, and perhaps some of the simpler abbreviations for common units of measurement used in making purchases of food and clothing materials.

Grade III. — Projects in gardening, in studying the amounts of food materials used for luncheons, in making purchases of foods, in studying the quantities and units of measurement in sales of food at the grocery, meat market, bakery, and fruit stores, in the study of textiles or garments and studying the methods of sales at clothing stores, in the study of the means by which we are provided with milk and its products and

in considering the cost and methods of sale of other materials, all require increasing familiarity with the meanings of these units of measurement, their values in money, and the processes in manipulation represented by the usual daily transactions in buying and selling these commodities. As quantities and values enlarge, demands for the full forty-five combinations are made, and for most of the facts of multiplication, including long multiplication with the multiplier of two place numbers and for short division and partition. Construction work requires the continued use of linear measure. The needs for the measurement of areas for building projects, charts, and maps, require the use of the square inch, square foot, and square yard with the method of getting areas from length and breadth. Some of these projects, and projects in weather records, saving records, and records of accomplishment or improvement in projects of various kinds graphically represented require scale drawings. All of the simpler fractions commonly used in measurements or expressions of value will appear in these projects. Addition and subtraction of simpler fractions with a common denominator will probably be needed. Some problems in very simple reduction of fractions may occur.

To facilitate the projects arising in number, new symbols and terms will be required: the symbol ÷, and the abbreviations for the common units of measure in length, area, weight, capacity, and time, and the terms sum, difference, product, multiplier, divisor, and

quotient. Correctness of form, as a need, will appear in problems in addition of United States money where the position of the decimal point will be important, and in other processes where results depend much upon the accuracy of placing respective parts in written representations.

Needs for reading chapter headings in books, in Roman notation, and some other occasional uses of Roman notation will call for learning these numerals beyond the XII of the clock face and may easily constitute a project in learning the notation to C.

All of these projects require the use of number as a tool; they involve much analysis, selective thinking, and associative thinking — reasoning; and they are opportunities for genuine practice in using number as in everyday life. The projects themselves are very largely those in the practical arts activities. It is one of the teacher's problems to note the degree of success with which the number facts and processes themselves are possessed as tools as well as to see that the usage of the tools is learned. As needs for facility in recalling facts and processes arise, it is the teacher's part to direct the work in such a way as to bring the need for practice so consciously to the attention of the children that a project will be initiated by them. When a project of intrinsic significance and interest is halted because of the lack of the essential facility in number to carry it forward, the worth of practice will be appreciated. Under such circumstances the value

of number will be seen in what one can do with it, and the need for its use will give the mental set and the interest which will make practice most effective. The more quickly and fully the child appreciates that "without automatism" in the recall of basic facts and processes "there is no freedom" in carrying out projects requiring the use of number, the more readily will he initiate and carry through projects in the mastery of these basic elements.

Notch sticks, knotted strings, and other devices for number records and processes used by early peoples studied in history, if compared with present methods, will add to the interest in the use of number.

Grade IV. — Projects in the economics of food, clothing, shelter, furnishings, and other supplies in the practical arts and the related geography and history and in hygiene and recreational activities afford an abundance of problems requiring the use of number processes within the capacity of children of this grade. Reading with intelligence presents needs for interpreting quantities and relationships much larger or more involved than those quantitites and processes with which manipulation is necessary.

In the foregoing projects, new needs are those for: long multiplication with three-place multipliers; long division with two-place divisors; forms of proof for fundamental operations; common processes with fractions and mixed numbers, as these occur in simpler business transactions; principles of decimals as used in

United States money and in simple percentage in connection with savings and interest on bonds; Roman notation to meet any need in reading dates found on public buildings, monuments, and on the title-pages or covers of books and periodicals; the terms vertical, horizontal, oblique, right angle, rectangle, triangle, circle, circumference, diameter, cube, rectangular solid, and sphere as simple geometric forms as considered in practical-arts projects, geography, or games; the terms rod, mile, acre, barrel, calorie, and ton; and the systematization and learning of the tables of denominate numbers with which usage has made the children familiar.

Studies of the Greeks, Romans, and other earlier European peoples, if included in this grade, may show the usage of number by these peoples in comparison with our present units of measure and value and our methods of computation.

The foregoing work will reveal needs for projects in further practice to make automatic the use of fundamental facts and processes. Vigilance is necessary that this need be not neglected, but it is also very essential to see that there is no arrest of development by overemphasis upon the mere facts and processes.

Grade V. — Projects in providing ourselves with supplies and material requirements of various kinds will include many problems in the use of number as a most essential tool. Among these are such as the following: children's problems of earning, producing,

and saving; the cost of flour, meat, coal, and other staple commodities per person, using high, low, and average; cost of food, of clothing, of shelter for the pupil for one year, using high, low, and average conditions; bills and accounts from homes relative to commodities which are the basis of projects in practical arts; comparisons of wholesale and retail prices, of prices paid the producer and later paid by the consumer; comparison of prices per unit in large and small quantities; comparison of freight distances and routes and of rates by rail and water; distributions of cost to producer, to transportation, to wholesaler or commission merchant and to retailer; comparisons of production and transportation costs to domestic and foreign producers for such commodities as cattle and cattle products and wool from Argentina and Australia; comparison of costs of rental of a home and purchase on borrowed money, involving some acquaintance with the facts of taxation, insurance, house upkeep, and simple interest; costs of sickness by loss of income and expenses for medical and other aid; costs and returns of school and home gardening or other projects with the methods of determining profits and losses; the cost of the labor factor in production; the cost of roads to the community; means of paying for roads and other enterprises maintained by the community including the simpler facts of bond issues; the interpretation of quantities and values as expressed in current reports of the volume of domestic and foreign production and

trade as parts of projects in geography; problems in rainfall and weather conditions, and other problems connected with interpreting the everyday activities of life and solving those requiring number as a tool in the conduct of one's personal and family transactions.

Added to the previously learned facts and processes, this year's work may require somewhat more difficult processes in the reduction, addition, and subtraction of fractions and mixed numbers; the multiplication of fractions using cancellation; division of fractions; applying all of the fundamental operations in percentage connected with simple interest, profits, losses, and taxes; and the further applications of linear and square measure in scale drawings necessary for accuracy and rapidity in the recall of facts and processes.

Grade VI. — Projects in the practical arts, geography, hygiene, civic activities, and recreation, continuing as in the preceding grade, but including more advanced problems in number, furnish the need for further usage of processes already learned and the addition of some new processes. The business transactions in supplying the general needs of daily life may now extend to considerations of simple accounts, including bills, receipted bills, receipts, balances, and the simple problems in banking, as the depositing of money, the proper use and form of checks, and keeping balances. Projects in personal accounts, developing the use of the account book with proper entry of receipts, expenditures, and monthly balances, may be

compared with similar projects in the handling of household accounts or other simple business accounts. Projects in the practical arts include problems in budget making for food, clothing, and other material needs, and should also include consideration of budgets for recreational needs — books, magazines, music, plays, travel, and other possible forms — for church and philanthropy, for taxes, for medical aid, and for insurance and other forms of saving. Through these projects in the distribution of income, questions may arise in connection with the various occupations studied, as to wages, salaries, standards of living by workers in each vocational group, and the economic investments and rewards of these several vocations may be taken up. Projects involving taxes, buying on the installment plan or borrowing money to pay cash, property and life insurance, building houses by the help of building and loan associations, investments of money in government bonds, in mortgages, and in stocks, with related questions of safety, education as an economic investment, and other projects dealing with questions of thrift, saving, investments, or profit and loss will all require applications of percentage and simple interest. The time may be limited to years and months. Compound interest will be required as it applies to investments in savings banks, savings stamps, and liberty bonds. Needs will require thoroughness in the practical applications of percentage so that children will come to think many rela-

tionships in terms of per cents with definite reference to their bases. The difference of two cents between eight cents and ten cents as the price of the same article at two neighboring stores is not much when thought of as two cents. But when it is appreciated as twenty-five per cent of the lower price it becomes significant.

Projects in transportation include the importation of supplies and the exportation of surplus, requiring consideration of local and more distant freight, express, and parcels post rates and regulations; the relative cost of transportation by rail and water routes; passenger service with its opportunities and costs; and postal service for communication and for the transmission of money, requiring comparisons of postal and express money orders and the transmission of money by draft, check, and telegraph, as to relative cost and advantages. Projects in finding out how communications are transmitted will lead to a study of the classification of mail, costs of each class, stamps, special delivery, insurance of mail, registered mail, and the meaning of the franking privilege. In this connection, communication by telegraph, both ordinary and wireless, and by telephone, with their relative costs and advantages, may be introduced.

Weather records, including rainfall, monthly and annual, temperature, air pressure, velocity of wind currents, amount of sunshine, and other questions relating to local agriculture or gardening problems will require the use of integers and decimals, graphically represented.

In geography, differences in time will require an understanding of Standard Time and the more general facts of circular measure, connecting here with latitude and longitude.

Interpreting the terms of measurement in land forms will require study of the units of land measure in city and country, and this may well lead to a consideration of the development of our national land system of survey and measurement so that the terms acre, section, township, and range may become significant.

The geography of the year, including so much of statistical character in production, distribution, and use of commodities, will require much interpretative use of number. Relationships will often be more evident and meaningful when expressed graphically. Relationships of gain or loss, of differences in cost of production, of changes in value or amount and of statistical facts generally are very frequent in this year's work, and the needs are sufficient to make it worth while to develop much efficiency in reducing such facts to graphic form.

Needs for exact recall of fundamental facts, processes, and methods, in using number as a tool in carrying forward these various projects, should be sufficient to motivate any drill work whenever weakness in recall is evident.

Principles for the Selection and Organization of Arithmetic. — 1. For the elementary school the content of arithmetic to be selected is that which is of

direct use in the common daily needs of life, in the measurement of quantities and values.

2. The approaches to all specific projects in arithmetic should be through needs for processes, principles, and skills arising in life situations which require them.

3. In arithmetic for the elementary school, manipulative practice should not be required beyond that range of numbers and processes, of value in the common daily needs of life. Interpretative knowledge should include such numbers and number relationships as are found in current usage.

4. Projects in drill work to perfect one's memory of number facts and processes should all grow out of situations requiring the respective kinds of facts or processes, situations which reveal the value of having these at immediate command. When need comes through a single example for a kind of closely related groups of facts, as of certain combinations or one of the multiplication tables, it is an economy of time and effort to learn the whole group by intensive practice as a single project. The number of such facts is too great and their differences too small to depend upon their incidental mastery as they occur in general life situations.

5. The learning of number facts or processes should not be attempted until capacity for such learning is so developed that it will not be taxed to a degree which will destroy interest in the work.

6. Work in drill processes should not be provided to such an extent at any given time that interest in drill itself becomes wholly separated from the uses which are served by the facts or processes learned. Interest in a means should always be subordinate to interest in the end which it promotes. This helps to prevent what is often called arrested development of capacity for using number.

7. The work in number should include the development of effective methods of graphical representation called for by life situations as these are taken up in practical arts, geography, or projects in other fields requiring the expression of many number facts and relationships.

8. The introduction of many life situations calling for measurement of quantities and values makes it possible to introduce some processes earlier than when the work in arithmetic was wholly separate from problems requiring its use. Work may well be taken up in a sequence departing from the traditional, when children show a basis in capacity and experience for processes needed, but not formerly included in the work for their particular grade.

9. Since arithmetic finds such a large place in the problems of measurement and value in the practical arts and related fields, the time required for arithmetic as such may be reduced very considerably from the customary assignment of time given to it.

CHAPTER XII

HISTORY

The Purposes Served by the Study of History. — That study of history which deals primarily with the activities most instrumental in promoting human progress helps us to interpret the present by showing us how it has developed from the past. That which is merely obvious becomes meaningful and significant as an expression of underlying social forces. As the forces that make for progress are revealed in their modes of operation, help is also derived in the guidance of conduct, both individual and collective.

These values for interpretation and guidance lie in part in knowledge that is definite, and in part in attitudes or ideals developed by the study of history. These attitudes are tendencies to behavior which are almost unconscious in their operation. They develop largely as by-products. The properly selected elements of history furnish repeated examples of loyalty, patriotism, sincerity, fidelity, justice, toleration, and the spirit of unselfish social service. As we learn of the finest and best in the life of the past, it calls to the finest and best in our own nature and exerts a profound influence upon the qualities of our conduct. The intelligence and the potency with which these

attitudes are expressed measure the quality of our citizenship.

The institutions, and the values of the present, material and spiritual, are the cumulative results of forces which have been at work through all of the centuries of human history. These forces are very much the same to-day as ever. The purposes for which they are working are much the same. But the life of to-day is complex and varied in a degree never before experienced. This complexity and variety of activities has grown from simple beginnings through gradual changes resulting from discoveries, inventions, and experiments. Basically, the all-embracing purpose which has brought about these changes is the attainment of greater enrichment and satisfaction of life.

Early in human history men dimly realized that they were dependent upon the use they made of their natural environment and of the use they made of each other. Through all the ages the consciousness of these two forms of dependence has grown. To-day the mastery we have over the forces and resources of nature and the importance we attach to this is evidence of our quite complete recognition of our dependence upon the physical environment. That we to-day also are entering upon the development of a world-wide league of nations, indicates that we more fully realize the meaning and possibilities of dependence upon each other, of a universal interdependence of members of the human family.

But, between the poverty of food, clothing, and shelter of our primitive ancestors and the abundance and variety of twentieth-century utilities and luxuries, lie many epochs of slow growth. Between the early attitude of enmity toward all save those of the immediate family or clan and the attitude of universal amity inherent in the conception of a world-embracing league is a story of age-long struggle. By learning of the steps which have meant progress in these two forms of activity from their simple beginnings, we learn the method of progress itself. From the attempts at changes and their results among earlier peoples and our immediate forbears we find what forms of conduct increase well-being and which reduce it. By example upon example, we see emerge the great principles of human conduct which must be employed to-day, to-morrow, and forever in maintaining the values we have attained, and in progressing to higher levels. We see the history of man's conquest of nature as a history of the discovery of natural law and conformity to it through adjustments and inventions in using its materials and forces. In the development of means for more fully using the resources of nature through the invention of tools and machines for production and manufacture and of vehicles for transportation we see the growing need for coöperation among men in using these inventions. We see the growth of economic interdependence and from this in turn the need for political and other forms of co-

operative and regulative action. The study of history, therefore, for educative purposes, is a study of the methods by which the race maintains its life and makes progress.

From the records of the ages of race life, education requires a selection of those activities only which result in changes which in some way contribute to permanent well-being. This will, of course, include those conspicuous attempts which failed because of their antagonism to human welfare. In the guidance of conduct it is helpful to know what retards or puts back as well as what advances civilization.

In general, the subject matter of history aids in interpreting and promoting conduct, along three closely related lines. These include : (1) the discoveries of the resources of nature and of inventions for the conquest and use of these resources; (2) the development of means for coöperation in securing and using resources of nature and in other activities of man for the common good ; and (3) the evolution of the human spirit as it expresses itself in literature, art, music, play, science, philosophy, and religion.

Of history we ask, what, in the experience of the race, will help us to interpret or explain a present situation or make its meaning or mode of operation clear? When a situation requires action, we ask of history, what has the race experience to offer through showing the consequences of various ways of meeting this or a similar situation that will help to guide our action?

By selecting from history those elements which help to answer these questions the uses of the experiences of the past become direct and clear. This selection makes evident the value of history in interpreting the present and in providing some elements of help in directing our conduct. It is thus in aiding us to solve our social problems, large and small, that history makes its contributions to citizenship. Its values are tested by the measure in which they serve to promote really appreciable purposes.

By the use of history which gives meaning and value to the present, which at all times deals with the problems and issues of life itself, it is reasonable to hope that an attitude of permanent interest in the evolution of human affairs and ideals will develop. A desire to read history in spare time may be expected if its study in school continuously opens new fields of significant human action. History is rich in adventure, dramatic action, and heroic conquest. The school has time for only those selections from history whose bearings upon present-day life are relatively immediate and vital. But both enjoyment and healthful outlook may be derived by reading much from history more remotely related to problems and interests to-day. Interest in the evolution of human life and the human spirit may be developed in many through the study of history, and history in turn will yield much in interpreting the meaning of the life activities of the present.

The Extent of the Field of History. — The answers to all of the questions raised in an endeavor to interpret and explain the conditions, customs, and ideals of to-day cannot be found in the study of American history alone. As a country, America is young but its peoples are old. The forces and influences which have contributed to Americanism have been slowly growing through many centuries. By considering the countries from which have come the peoples who make up our own complex population we see that we are actually related as a whole people to all of the nations of the earth. Peoples of most of the countries travel about more or less in all other countries. Business and social intercourse bring about direct or indirect contacts which give us a feeling of neighborly interest in peoples all over the world. Communication with all is so free and prompt that from day to day we know of the well-being or misfortunes of all. The resources, customs, laws, and ideals of all are of some concern to us as we realize how these affect our relationships with them. The vital coöperation of many of the nations for the common defense in the Great War has shown this world-wide interdependence with force and clearness. That our own conduct must take into account the operation of various economic, political, and other social forces among all of the more important peoples of the earth becomes daily more apparent. The range of interests in social life has become world-wide and the needs of this and future generations

require studies of social customs, laws, and ideals as world-embracing as their range of interests.

But what are the origins and the steps in development of these forces, that have brought this international, inter-racial unity and community of interests, purposes, and values? As we look about and realize these conditions in a present-day, spacial sense, we also recognize that we can interpret them, and discover the method of operation of the forces that have produced them, only by following their development in time. We can see how economic, political, and social life has assumed its present form, only by learning of the discoveries, conquests, inventions, and new ways of living which have assisted in the development of the methods, customs, and institutions of the life of to-day. All of those progressive agencies of the past which can be seen in relationship to the present, which enter as elements in determining the activities of the existing social structure, become the subject matter upon which we are to depend for interpretation of this social world, and for guidance in our participation in it. The range of the field of history includes, then, nothing less than the most significant steps in the progress of the whole human race. If the problem seems overwhelming, let it be ever kept in mind, that, for educational purposes, we are to study the past for those elements only which enter into and influence the life of to-day. For the elementary school the selection is limited to those

elements which are contributory to projects which are genuinely within the range of comprehension of elementary school children and which enable them to live more fully into the economic, institutional, and social life of which they are a part.

The projects in the practical arts very readily lead to questions of primitive and later processes, tools, sources of materials and usages, requiring information from the economic and industrial history of early peoples and of the changes through modern times to the present. Closely related questions of methods of exchange, transportation, and geographic controls lead further into the life activities of the respective peoples studied. From comparisons of these conditions with our own there emerge other questions, including forms of government, and other means of social cooperation or control. From the projects in art, music, literature, games, and other forms of recreation, the art, music, literature, and games of the earlier peoples or periods may easily follow to the enrichment of the projects of the children in their own recreational activities.

In general, any question asked of history should be in response to the need of some project which cannot be fully carried out without the material history affords. Growing out of such questions it is to be assumed that many projects in history as history will develop. Whatever has happened sufficiently breaking the monotony of human life to become a matter

of historic record is interesting, and that which makes sufficient appeal to lead children to desire to know about it has some worth. Many such parts have great worth. Much of the recreational reading of children and others may well be in history. The projects which require the use of history should open the field and stimulate interest in the reading of history as among the most attractive and wholesome forms of sedentary recreation.

The social forces operative to-day are the same forces that have produced the life of to-day. In attempting to understand the workings of social life, the life of which we are a part, the first steps lie in securing as much as we can by direct observation and inquiry. Even children of the first years of school life can be helped to see some of the more social meanings of their own experience. They may consider the more obvious activities about them and be led to appreciate the significance of them. The study of the ways of living of which history treats may thus begin at the very beginning of school life and be continuous thereafter. This is in itself a study of the problems and qualities of citizenship.

The first grade is occupied in noting the material supplies used in the community, the activities of people in providing these supplies, and the other more prominent forms of service needed by all. The work includes a study of the division of labor and coöperation in meeting local life needs and the development of the

general fact and meaning of that interdependence of people existing in any community. The complexity of this great variety and refinement of activities and relationships prevents any very complete explanation at this time. We may then turn to that part of history which affords conditions and situations so simple that some of these social forces may be seen in almost their very beginnings. In the second grade the study of the activities of the environment may lead to considerations of endeavors for the same purposes among primitive peoples and among the first American settlers or the American pioneers under very limited conditions. Following the beginnings of such activities in hunting and fishing, agriculture, industry, tribal law, government, religion, and recreational activities, steps forward in these activities may be noted in the third grade. Material may include studies in the life of two different types of American Indians, of the Esquimaux, and of the Hebrews and neighboring peoples to the time of Darius the Persian. There may be included one or two early settlements in America after the first years of colonization to the beginning of the Revolutionary War. In the fourth grade, projects may utilize the advances made in the various fields by the Greeks and Romans. The American history may continue with the methods of adjustment to resources and needs for coöperation of the colonists, during the period of the Revolutionary War, emphasizing the economic and social needs in

relationship to political and military problems. In the fifth grade, the contributions made by the discoveries, improvements, and conquests of European peoples through the period of the Crusades may be included, and also the changes in economic and industrial life in America from the Revolution to the Civil War. In the sixth grade the work may include the changes in life from the time of the Magna Charta in England, covering the period of the Renaissance, the Reformation, the discovery and settlement of America, the industrial revolution, and the most significant events in Europe to the present time. The work may also include the more significant steps in the political development of America from its settlement to the present time, including its territorial expansion and its development of international relationships, both economic and political.

By using this sequence of material in connection with projects relating to the present, there is developed a conception of progress in human affairs and of the forces which make for progress. There will be a growing appreciation of changes made by inventions, discoveries, experiments, and the application of new ideas and ideals resulting in better ways of living, not only in the past but as they enter into the life of to-day. Heroic personages are seen in relationship to the conditions and occasions which called for them and which give measure to the quality and magnitude of their heroism. Particular discoveries and in-

ventions will be appreciated for their meanings in terms of the social changes which they produced. Perspective will be given to the long series of events marking the struggles of man for more satisfying and abundant life from his primeval poverty to his present wealth of material and spiritual goods. There will be some realization of the *methods* of progress in life. From the tragically expensive experiments in trial and success or failure by which the race has learned it may be hoped that some principles of guidance have been derived which will make conscious planning with foreknowledge of results take the place of going blindly forward by impulse alone. Conduct inevitably results in defeat when out of harmony with the principles of justice, loyalty, and the brotherhood of man. This is seen by example upon example in history. The equal certainty that conduct in harmony with these principles shall ultimately prevail is even more forcefully illustrated. This race experience may be depended upon to do much in developing attitudes which will be a lifelong force in guiding conduct aright. The conception of history here set forth does not limit the situations to those having to do with love of country alone, nor to those calling for the heroic responses of military or political leaders, nor yet to those heroically penetrating the unknown regions of the earth as discoverers and explorers. While cultivating an appreciation of the great debt we owe all of these and stimulating emulation of their example, emphasis is

also placed upon the values of service of those who contribute to our well-being in the everyday relationships and problems of life. The common activities of life are not spectacular nor conspicuously heroic. Yet they are essential, and they may be accomplished with the spirit and attitude of giving the best and finest that is in one. History affords just as much that inspires to high service in one occupation as another. It is to bring to the great masses of people, to all of us, the help which history can afford in giving meaning, purpose, and guidance to life that this breadth of historic background and this selection on the basis of personally appreciated relationships are included. This scope of history is believed to be socially essential and its content is appropriate for the elementary school curriculum. Limiting the field to American history alone could give but a fragment of the help needed to interpret the world-wide activities and interests in which we are participating. How we have come to be — in agriculture, in industry, in the professions, in art, in literature, music, plays and games, in customs, in laws, in religion, in ideals, in nationality, and in internationality — and how we can better use the methods which have made us what we are in guiding us to higher attainments are the questions which history should help us to answer.

The Method of Approach to History Content and Its Use. — While many specific projects require the use of material from history for their full development,

we cannot depend wholly upon the needs of such projects for all of the values which history may contribute. A full dependence upon such a plan would strongly tend to make history seem but a collection of fragments. But one of the largest values in the study of history lies in the development of an appreciation of the forces operative in human life as moving, as producing changes. Only as this forward movement is felt can the dramatic appeal of the human story seize upon the imagination and impress the sense of its living reality. Only as race experiences are felt, as vividly expressing the life purposes of peoples, and as life purposes which are also ours, do they genuinely kindle our sympathies, challenge our sense of their values, and permanently influence our thought and feeling. Only as we follow the fortunes of a people in the whole round of their important activities for a considerable period of time do we come to appreciate the character of their modes and ideals of living and therefore the values of their contributions in inventions, discoveries, and conquests. We cannot develop all that history may most helpfully give by merely dipping into the stream of race experience, here and there, for this or that fragment of information, heroic incident, or illustration of noteworthy conduct.

The sequence in history content as here presented represents a continuity of progress from simple beginnings, through the ages of progress, to the present. Emphasis is placed throughout upon the use of present

activities and conditions as the basis of approach to all historic material and the source of all questions which it is expected that history may help to answer. But it is assumed that when the thread of history as such appears, its continuity will be apparent throughout the course. In the first grade, in all of the projects, the relationship between the immediate activities of the children and their social meanings and values are direct and close, representing the present only. In the second grade and all of the grades following, this present time element will be continuous and dominating. But, in the second grade will also appear another time element, that of the long distant past with its simplicity of activities, and later in the grade a third time element is introduced, that of a more recent past but with many conditions relatively primitive and simple in comparison with those of the present. In all of the remaining grades all of these three elements will appear — that of the present, that of the development of earlier peoples and of peoples of other countries, and that of the American people from the beginning of our history to the present.

In no grade will there be any attempt to engage in projects in both fields of the past at the same time. In the second grade, for example, the activities of primitive peoples may be carried on during the first two thirds of the year and the remaining third be given to the activities of the first white American settlers. Or, the primitive peoples may be studied until a

week or two before Thanksgiving and with this interest the story of the people who first had an American Thanksgiving may be begun and carried forward until the first or middle of February and the work with primitive peoples resumed and continued to the end of the year. In the third grade the study of Indian activities may occupy the earlier part of the year and of colonial life follow from the contacts of Indians and colonists; while the study of the Hebrews may extend from perhaps February to the end of the year. In the fourth, fifth, and sixth grades the work in American history may come in the last quarter of the respective years. The arrangement of the units may vary in different schools and in different years, but it does not seem desirable that studies in the history of more than one period should go on at one time. At all times, the interplay of reference from the present to the past and past to the present, and comparisons of various periods with each other will be desirable. Indeed the very nature of the projects should require comparisons. In the grades above the third, many of the projects in industrial art will require much usage of historic material in the explanation of the processes and results of their development as these enter into present-day industry.

Through the projects in the history of definite peoples or periods a connected series of steps in an historic movement is secured or a well-rounded appreciation is developed of the life activities and con-

tributions of a people. For the interpretation of the social significance and value of any individual event, or of the life of any individual character, this general setting is necessary. It is also desirable that this continued contact with a people be maintained until an intimate sympathetic acquaintance with them is felt. By this means it is hoped that an abiding interest will be developed leading to later projects in history which the pupil may undertake for himself. Without this background for the appreciation of the worth of contributions made, and of the mode by which changes were brought about, those wholesome attributes upon which we depend for much in influencing thought, feeling, and action cannot be adequately developed.

Projects Requiring the Use of History and Social Coöperation

Grade I. — Projects here represent home and community activities in meeting needs for material supplies, for personal and community service, and for recreation. These all lead to recognition of the facts of division of labor, coöperation, and social interdependence. Considerations of the home activities reveal the particular kinds of work and service of the father, the mother, the children, and of household employees. These are seen to be engaged in meeting needs for food, clothing, and other supplies, and for the care of the members of the family in such a way as to insure health, comfort, and proper recreation. The projects in the practical

arts and in recreational activities lead naturally into these questions of interdependence and include them.

Projects in finding out how the home and the members of the family are provided from the outside with their needed supplies and forms of service lead to a recognition of the activities constituting community life and of the ties of interdependence which bind together the individual and group interests of the community. In studying the work and service to others of the grocer, the baker, the butcher, the clothier, the carpenter, the paperhanger, the plumber, the furniture dealer, and others whose goods or services are immediately essential to the well-being of the children themselves and to the other members of their families, the relationships which make the services of these workers most effective may be seen and appreciated. In planning and building the doll house, the division of the house into rooms, the particular form of the rooms, and the materials and forms of construction will all be seen as determined by definite reasons. The work repeatedly illustrates the fact that activities in supplying needs are guided by specific purposes. Such ethical ideas may be brought out as the need of honesty on the part of the builder in furnishing good material and doing good, careful work, and on the part of those who employ him in asking for what is reasonable and in paying for work done. In studying the grocery store, questions arise as to the value of the grocer's services to the community, the

dependence of the grocer upon the community, the importance of transportation to the grocer and the community, and the methods of remunerating the grocer. There appear such ethical questions as the importance of cleanliness, order, and honesty on the part of the grocer, and of honesty, consideration, and other right relationships on the part of the people with the grocer. For other occupations studied the inherent questions of interdependence and ethical relationships should emerge out of the immediate situations in which they apply.

Questions as to where the grocer, the butcher, and other trades people get the supplies they sell may lead to a brief consideration of the dependence of the people of the community upon the farmer and gardener for certain kinds of supplies, and upon forestry and mining for others. This may connect with problems in school or home gardening in considering food supplies. But, in this grade, the emphasis may well be upon the most immediate, concrete, activities — those which can be observed at first hand. Other community activities, as those of the fire department, the street cleaners, the street railways, the postman, and the police may be noted as illustrating dependence upon others for service paid for by the community as a whole. This may raise the question of what the community as a whole does for us, and in turn, what we do, or may do for the community. In payment of those serving the community as a whole the use and

purpose of taxes may be noted. The services of physicians, nurses, lawyers, teachers, ministers, and other professional workers may be considered as these are observed. Of these professional and civic occupations relatively little is required here save to note their place as a part of the community life, driving home the conception of interdependence and of its method of realization through division of labor and coöperation.

In recreational projects, — picnics, trips to parks, museums, concerts, theaters and movies, libraries, games, plays, pageants, and the like — a further appreciation of interdependence is realized.

In the consideration of food, clothing, and the conditions and care of the home, questions of health arise. The need for coöperation by all in personal hygiene and sanitation — purity of food, water, and air, proper disposal of garbage, and cleanliness in the home, about the home, and in the streets and waste places — impresses still another form of community interdependence.

Through following the various activities of home and community life to the reasons for them and to considerations of how they may most effectively serve their purposes, children should begin to appreciate something of the general notion of the most fundamental need for community coöperation and also something of the method by which the coöperative activities of social life are maintained. They cannot express these as generalized principles, but they have

many illustrations of them in concrete application and a feeling of their general meaning. These concrete experiences and conceptions are the raw materials out of which general principles may be developed as time passes.

Grade II. — Projects in the practical arts, relating to questions of the purposes these products serve, the persons whom they serve, how those who produce and prepare the products are repaid for their work, and the relationships which must exist among the users and the producers, further illustrate the fact of interdependence and how it is realized. The community may be enlarged to include more surrounding country, and the conception of the dependence upon farming and transportation more fully developed. Studies of the farmer's life and problems, of wholesale markets and of some industries help the children to realize more concretely the conditions under which supplies are produced and brought to them and to feel a more neighborly and sympathetic relationship to these members of the larger community.

Local needs noted in the first grade but not followed in any detail may now be considered as to the means used for meeting them. There may be projects in finding out about: the town or city government — who represent the government as officials, how they are chosen, what they do, how they are supported, and how we can help them by obeying laws, studying our needs and helping them to provide for them, pay-

ing taxes, and keeping right relationships with all of the members of the community; the fire department — its purposes, its means for work, its stations, how to send in an alarm, and how we may help to prevent fires by using care with matches and inflammable materials, keeping all improper places free from paper and rags, keeping fire escapes clear, having fire drills in school, learning to get out of a building quickly and quietly and learning what to do if the clothing takes fire; of the police department — its purposes in protecting life and property and how we may help it by doing right ourselves, telling others of the laws, and reporting wrong and wrongdoers; the street cleaning department — its purposes, its equipment, what becomes of waste and garbage, and how we can help to keep the streets clean; the water supply — how water is obtained, how distributed, how the cost is met, and how we can help in keeping the supply pure and avoiding waste; the health department — its purposes, what it does, and how we can help by doing all we can to keep well ourselves and to help others to make conditions sanitary; the public parks — their purpose, and how we may help in making them attractive and useful; transportation — car lines and busses, their purpose, how to use them, the treatment of employees with courtesy and consideration; educational and recreational institutions — the schools, the libraries and museums, newspapers and magazines, theaters and movies, and how these may be used by

us and how we may help in making them most useful; and religious institutions — churches, Sunday Schools, young people's associations and their purposes.

Projects in finding out about government beyond the town or city may follow from questions in sources of materials, transportation, travel interests, and the postal service. Such questions may lead to consideration of the name of the home state, its capital and its governor, and mention of others who make and enforce the laws and the fact that these are chosen by the people. There may be included the general geographical outline and the position of the children's home within the state, using a map freely, and, in a similar way, considering our country as a whole with its seat of government and the relationship geographically of the home state to the country.

Projects in the practical arts and in other community activities may often be made more meaningful by study of the ways of meeting corresponding needs under conditions most simple and primitive. Imagining away all of the ready-to-hand supplies and conditions for furnishing them to us, including the knowledge of methods and tools for producing them, we have somewhat the condition faced by very primitive peoples. How these peoples met their needs for food, clothing, shelter, tools, and means of transportation and communication are projects full of interest because of contrast and the appeal to imagination, and, considered in connection with projects in our own methods

of meeting corresponding needs, help to give larger meaning to these activities. They lead to a more intimate inquiry into natural resources and possible methods of using them. They confront children with the problematic situations faced by man in the dawn of history and lead them to see how necessity forced man to think purposefully and effectively in devising means for supplying the needs of life. Children thus see the great needs for discoveries and inventions, how these were made, what the changes resulting from them were, and the values of these as they have been transmitted through the generations and are utilized by us to-day.

The story of primitive man's activities in meeting his needs for material supplies, for coöperative action in securing these supplies, for defense from enemies, for recreation, for communication, and for religious expression as recorded in such books as Miss Katherine Dopp's "Tree Dwellers," "Early Cave Men," "Later Cave Men," and the "Sea People" furnishes an excellent source of material for projects in the beginnings of progress in the activities in which man is to-day primarily engaged. The series of books by Miss Margaret Wells, "How the Present Came from the Past," is also a valuable source for this work. These projects may be initiated by the teacher in connection with some of the practical arts projects early in the year and carried on until March or April, or until near Thanksgiving. If the latter they may be resumed again in February

and carried on until the end of the year if the material available is sufficient. As projects develop in the way these primitive peoples lived and improved their ways of living children may use by comparison and contrast such historic materials as they have found relating to these corresponding activities. How these early peoples supplied themselves with food, clothing, and shelter, what they did for recreation, how they helped each other, and other questions relative to their activities in accomplishing the same purposes as those which occasion our activities may be asked and the answers considered in their bearings upon our own problems of to-day.

Projects in finding out about the conditions of life of some of the earliest European settlers in America and the means used to meet these relatively primitive conditions add other illustrations of simple ways of providing for the necessities of life through adjustment and coöperation. Comparisons of the resources of primitive peoples, of the early settlers, and of ourselves in methods of providing for needs, in standards of comfort, and in ways of aiding each other, bring out many elements which help to impress the facts and methods of progress in human life. These studies in how the first settlers in this country lived may come in the last month or two of the school year, or they may begin near Thanksgiving and continue for one or two months. Thanksgiving interests lead readily into questions of how the people lived

who celebrated the first Thanksgiving day in this country.

Grade III. — The projects in the practical arts lead to ever enlarging conceptions of the interdependence of peoples and of the practical working out of interdependence through division of labor and coöperation. The growth of the community in extent, the relationships with other communities, and the adjustments to controls of distance by means of communication and transportation help to impress the needs for coöperation and regulation that each may profit most by the help of all, and that each must do his individual share. Group activities are noted in connection with many community occupations and enterprises — crews of workmen, teams, as the fire company or school or other athletic or ball teams, lodges, associations, labor unions, church organizations, clubs, and so on. Questions of rights and duties often arise in connection with honesty and fair dealing in weighing, measuring, and buying or selling goods, paying car fares, or ownership of property; with observing health measures; with reference to the care of waste paper and other refuse in the home, yard, or street; and with incidental occurrences in the immediate community. In all of these relationships, emphasis should be placed upon the need of both individual helpfulness and of coöperation or teamwork. Both in school activities and in outside activities as observed, it should be made clearly evident that individual subordination or re-

striction in the interests of the group is necessary but that such restriction is at the same time profitable to the individual himself.

With the beginning of the year, studies in how early peoples lived may be continued. Economically the forward movement of the race has reached the later hunting and fishing stages. The American Indian is an excellent representative of this type of life. The Indian of the plains, the cliff dwellers of the southwestern United States, and the Esquimaux of Alaska are three good illustrations of man's adaptation to the controls of environment. Relatively there is little of importance in the life of the Esquimau, and but a short time is required to find by comparison the forms of response which he has made to maintain life in his limited environment. The Indian of the plains may be studied first, except in the states where the cliff dwelling Indians lived or live.

The points to be particularly noted include: kinds of game and fish sought; hunting and fishing weapons or tools; means of preserving game and fish; development of primitive agriculture; methods of cooking; cooking utensils; the dog and horse as domestic animals; the use of the canoe and boat; uses of skins and methods of dressing them; ornaments, trophies, and rude money; kinds of shelter or houses; paths or trails forming the first roads; spinning and weaving in their early forms; development of trade or barter between different tribes; tribal

organizations; recreations and amusements; religious ideas and ceremonies; and how children were educated.

The transition from a hunting life to pastoral life resulting from the domesticating of cattle, sheep, and goats, which furnished a supply of a considerable part of the food and clothing, may be made by taking up a study of Hebrew history from the time of Abraham. The development of early agriculture with its needs for a more settled life is included in the history of the Hebrews and also the beginnings of commercial life through the trade developed with neighboring peoples. This study may be carried on to the period of contact of the Hebrews with the Persians and the time of Darius. From the time of Abraham's first appearance as chief or patriarch of his clan to the time of Darius many changes take place in industrial, social, and institutional life. The contacts of the Hebrews with neighboring peoples include opportunities for noting the chief contributions to progress of the Egyptians, Babylonians, and Persians. Many heroic personages appear, and the annals which serve as the chief source of material are classic. The work divides itself into three rather definite parts: the period of Abraham; the period subsequent to Abraham to the time of Saul; and the period from Saul to the time of Darius.

In the first period, beginning with the pastoral life of Abraham, points to be especially noted include: the domestication of cattle, sheep, goats, camels,

and fowls; the need of pasture and the consequent wanderings of Abraham, and the seasonal responses at different times of the year; the necessity of protection from thieves and the use of captives as herdsmen; the use of swords and other bronze weapons and of armor; food and clothing products from herds; changes in clothing and in cooking utensils, including the growing use of woven goods, uses of skins as utensils, and improvements in pottery; beginnings and improvements in agriculture, including the use of wheat, barley, grapes, and olives, and the invention of means for harvesting, threshing, and grinding wheat and barley; the development of trade resulting from ownership of property and the growing division of labor; religious beliefs and customs; and customs and laws in economic and social life.

In the second period the stories of Isaac and Jacob bring out many elements in the social and religious life of the patriarchal family. The story of Joseph leads to the sojourn of the Hebrews in Egypt and the new methods in industrial and social life which they learned from the Egyptians. With the life of Moses, the flight from Egypt, and the wanderings in the wilderness, the strongly religious element in Hebrew life is emphasized and new problems in industrial and social reconstruction are confronted. A new experiment in government is seen in the period of the Judges and many hero stories express the conditions, problems, customs, and ideals of the period.

In the third period, the life of Saul brings a change from mere tribal government to a form of national government. In David's story and life the poetic spirit of the Hebrew finds splendid expression, and in the life and work of Solomon the material and social splendor of Hebrew life reaches its culmination. In the building of the temple, the arts and commerce of the Phœnicians are introduced. In considering the material and workmanship in erecting the temple, the advances in the uses of woods and of both common and precious metals and stones in shelter and furnishings are seen. The wealth of raiment in costuming and the variety of foods in contrast with Abraham's time mark the progress made in providing clothing and food by production or exchange with neighboring peoples. The division of the Kingdom caused by Rehoboam, the captivity by the Babylonians, the work of the heroic Jeremiah and Daniel, and the return to Jerusalem by permission of Cyrus may be briefly noted with such changes in economic and social life as resulted from contact with the Babylonians. But little of a progressive nature occurred among the Hebrews under Persian control, and the thread of interest leads through the contacts of the Persians under Darius with Greece, to be taken up in the next grade.

The last six or eight weeks of the year may be devoted to projects in the ways of living of the New England, New York, or Virginia colonists from the time of their well-established village and rural life

to about the time of the beginning of the Revolutionary War. One colony may be selected for particular study and some comparisons made with the others, bringing out the more prominent differences due to differences in geographic controls or in customs brought from mother countries. Points of emphasis will include the kinds and sources of food, clothing, and other material supplies, the means used for securing these, the devices and implements invented or used, methods of coöperation, home life, customs, forms of local government, religious customs, recreations, and means of education. Struggles in adapting themselves to the rugged forces of virgin environment, difficulties in dealing with the Indians, and problems in coöperating with their white neighbors will be noted and significant events considered. Comparisons with present-day methods and problems and with those of peoples in primitive and ancient times should be made.

In this grade, as in all others, holidays should be used as centers with which to associate the historic movements which they celebrate.

Grade IV. — Projects in the practical arts with their related problems in geography, and projects in recreational activities continue to lead to an enlarging appreciation of the facts of the interdependence and needs of coöperation of peoples both locally and in communities widely separated. Many of these projects may very readily include historic material from the

study of the life and contributions of the Greeks and Romans.

The forward movement in the evolution of industrial, social, and political life of early peoples was brought to the conditions of the time of Darius in the third grade. It may now continue by studies in the ways of living of the Greek people, followed by a similar study of the Romans. The work should bring out the essential difference in the genius of the two peoples — the Greek in the field of art, letters, and philosophy; the Roman in law, government, and practical affairs. However, the pupil will come to feel this difference rather than to express it in words at this age. Recreational interests should receive a stimulus from the Greek studies, and projects in dramatization, fine art, and perhaps an " Olympiad " and a " Marathon " may be initiated.

The study of the customs, ideals, and life of the Greeks may well begin with their mythology and legends, here combining interests in history and literature. Stories giving acquaintance with the more important characters in Greek mythology may be followed by the legends of Ceres, Heracles, Theseus, Perseus, Jason, and the Trojan War. A brief study of the lawgivers, Lycurgus, Draco, and Solon, brings out the ideas and customs of education, of the common table, of trade and money, of warfare, and of ideals. Then may follow the connection with Persia through the conquests of Cyrus and Darius,

the first and second Persian invasions, the defeat of the Persians, including the eventful battles of Marathon, Thermopylæ, and Salamis.

Especial attention should be given to the study of the Athens of Pericles, bringing out the glories of its art, literature, and philosophy. The life of the people should be appreciated by study of their dress, houses, schools, slaves, temples, theaters, the fine public buildings of the Acropolis, the statuary, carvings, and paintings, and the encouragement given to oratory, the drama, and history. The Colonial Empire of Athens and how Pericles used money from the colonies to beautify Athens and stimulate the genius of the people should be noted. The children should become acquainted with Eschylus, Sophocles, Euripides, and Aristophanes through selections of plays which may be told or read to them. "Antigone," "The Wasps," "The Birds," and some other plays may be used to bring out the dramatic power shown in tragedy, satire, and comedy as these reflected the ideas and ideals of the Greek people. The life of Socrates and the way he taught, some of his leading ideas, the nature of the sophistry against which he struggled and the simplest facts about the life and the contributions of Plato and Aristotle may be considered. The main historic movement and the largest events and characters of the Peloponnesian War may be followed to the results coming from the war. The Athenian assembly and the law courts, and the general character of the Athenian democracy should

be considered. Such comparisons should be made as are possible with the democratic ideas and practices of to-day. The rise of Macedonia, the contributions of Philip and Demosthenes, and the character and conquests of Alexander the Great bring the larger features of Greek accomplishment to a close.

The work may now take up the legendary history of Rome, the development of the Roman Republic, and the conquest of the world by Rome. Questions considered will include Rome's methods of conquest and of holding conquered countries; of the military roads and their use in developing trade; of the development of Roman citizenship and of changes in forms of government; of the homes, dress, and occupations of the Roman people; of the conquest of Greece and the learning by the Romans of Greek art, literature, religion, and philosophy; and of the general results following the conquest of the world by Rome. The decay of the Republic and the formation of the Empire may be left for the fifth grade.

The latter weeks of the year may take up the further development of American history through the period of the Revolutionary War to the beginnings of Washington's administration. Brief treatment may be given to the general conditions which brought about the war, its progress, and conclusion, its results, and the conditions of the American people economically, socially, and politically at its close. In connection with the story of the origin of our flag children may

be taught the meaning of the flag as a symbol and the forms of conduct with which we should treat it to show our respect and reverence for it. The larger and more general provisions and meanings of the Constitution may be noted. Some of the more important personages of the period may become known more intimately through their biographies or from literary selections in prose or poetry relative to them.

Grade V. — The work in industrial arts, including questions of sources of materials, factory production, transportation and markets, and distribution and use among consumers leads to the revelation of many conditions requiring coöperative effort. The need is seen for both voluntary and legal modes of social control to secure standards of health, fair dealing, and just treatment in the supply and use of material commodities. Many processes and methods of procedure in agriculture, industry, transportation, and trade require subject matter from history to explain them. Much that has been found of beginnings and changes in economic life in history projects may be used and much may be gotten from periods not yet studied. The study of present activities through the year will derive much help from the history which includes the period from the decay of the Roman Republic to the end of the Crusades in European history and from Washington's inauguration to the Civil War in American history. The expansion of American life to the west with the necessary questions

of geographic controls which help to explain it throws much light upon many conditions of present-day economic, social, and political life.

Studies in the decline of the Roman Republic and the formation of the Empire will include: the conditions of the poor; the growth of slavery; the invasion of the Germans and their defeat by Marius; Pompey and the conquest of Asia Minor; Cicero and Catiline; the defeat and death of Pompey; the life, conquests, and death of Cæsar, leading to the use of parts of Shakespeare's "Julius Cæsar"; Augustus and the establishment of the Empire; changes in the form of government; improvements of Rome; the loss of the legions under Varus; and the conditions of life under the Empire in home life, dress, houses, baths, the villa, conveyances, education, and amusements, as the triumph, games of the arena, and gladiatorial combats.

Studies in the later Empire will include: the spread of the Roman language and law; the growth of Christianity; Nero and his persecutions; the three great emperors, Trajan, Hadrian, and Constantine; the growth of public buildings and luxury at Rome; the extent of the Empire; and the removal of the capital to Constantinople.

Later movements include studies in the customs and conquests of the Germans and other western peoples. Among the questions are those of the home life and religion of the Germans; their dislike of close

neighbors; the comitatus of war leaders; the introduction of Christianity among them; the overrunning of the Roman Empire by the various German tribes; the Goths, the Vandals, the Lombards, the Franks, and the Angles, Saxons, and Jutes; the conquest of England; and the work of St. Augustine in converting German tribes to Christianity. In considering Mohammed and the Franks, are the questions of the rise and spread of the Mohammedan religion, the conquest of the Mohammedans in Asia Minor, northern Africa, and Spain, with the danger to the Franks, and the turning of the invasion by Charles Martel at the battle of Tours. Following this are the development of Charlemagne's Empire and its breaking up with the growth of Feudalism. Still another movement is that of the Northmen. Broadly this includes the raids of the Vikings upon the coast of England and France, Rollo and the settlement of Northmen in France, Alfred's struggles with the Danes, the kingdom and good government of Canute, and the discovery of America by Leif Ericson.

Medieval life, to be understood, requires studies of the manor or villa, the lord with his castle, retainers, and his amusements, the relationships of lord and vassal; the church with its cathedrals and the development of architecture, stained glass, and the work of the monk in copying manuscripts, preserving ancient learning and making books; the village life, the fields, the occupations of the people, problems of taxation, and the education of the knight, his armor, what he

did, his regard for women, his ideals, and his tournaments; and the amusements and recreation of the time, including the activities of minnesingers, minstrels, and troubadors.

The history of England as represented by the more significant events of the Norman conquest is included in this year, noting the activities of Edward the Confessor, the battle of Hastings and the election of William, the Domesday Book, and the oath of Salisbury; the good laws of Henry I, the troubles of Henry II with Thomas à Becket, and the growth of English territory in France.

The year's work also covers the period of the Crusades. The points for study include the custom of Christians to visit the Holy Land; the conquest of Jerusalem by the Turks; their profanation of holy places and their ill treatment of pilgrims; the activities of Pope Urban, Peter the Hermit, Walter the Penniless, and Richard the Lion-Hearted, and the Crusades resulting from their efforts; the adventures of Richard and the service he did for England; the Children's Crusades; and the effects of the Crusades in awakening new economic and intellectual interests in the people of western Europe.

The last six or eight weeks of the year may be devoted to studies in the important changes in American life from the time of Washington's inauguration to the beginning of the Civil War. Among the questions emphasized are the growth of industry, the extension

of agriculture, the development of domestic and foreign trade, the development of a national money and banking system, the westward movement and its results, the territorial expansion, the development of canals, highways, and railroads, the influences upon agriculture and industry of inventions and new applications of power in operating machinery, and the political relationships with foreign nations, including the two wars and the results of these wars. Projects in many of these lines of development will require the constant use of geographic controls and relationships, emphasizing the factor of man's dependence upon the natural resources and conditions of his environment, and his adjustment to them. The opportunity is also very frequent to utilize the studies in the history of other peoples to explain and interpret events. The period furnishes many illustrations of the growing importance of coöperation and organization as a social force for increasing human comfort and well-being.

Grade VI. — Projects in this grade in the interests of the present for both occupation and recreation may draw heavily upon the accumulated experience of the children from the history of earlier periods. Much of the industrial arts work for the year is an interpretation of present conditions and means through an historical summary of the inventions, discoveries, and methods of operation of various industries, and of the organization of those engaged in industry into coöperative groups of specialists. The projects in

the practical arts in this year call for a summary of the steps from the beginning to the present which have marked the important changes, both industrially and socially, in man's providing for his needs of food, clothing, shelter, utensils, tools and machines, and records. Plows may be reviewed from the crooked stick to the tractor gang plow; harvesting machinery from the stone knife or metal sickle to the combined harvester and thresher; weaving machinery from the cave man's most simple hand loom to the great batteries of power looms in present-day factories; sewing tools from the bone awl or needle to the motor-driven sewing machine; houses from natural caves, pole lean-tos, or skin tents to the luxurious homes of comfort and beauty, perfectly appointed with furnishings to meet every need of use, leisure, and enjoyment; and so on, through all of the fields of need, material or spiritual, the pupil may realize the wealth of his cumulative heritage and be able to appreciate definitely to whom he is indebted for each significant element of his splendid legacy. He will know too what it has cost, and what it has been worth in terms of social advance.

Studies in European history continuing the forward movement down to the more important events contemporary with American history may begin in this grade with the growth of the power of the people in England as shown by the signing of the Magna Charta by King John, the beginning of the House of Commons

by Simon de Montfort, and the calling of the Model Parliament by Edward I. Events in the extension of rule by England include the conquest of Wales and of Scotland. Acquaintance is made with the heroic Wallace and Bruce, and the Hundred Years' War as a result of the attempt to rule France. The battle of Crécy and its effect upon Feudalism, the battles of Poitiers and Agincourt with the effect upon England's national pride, and the remarkable career of Joan of Arc are to be considered. The effect of the war in increasing the power of the House of Commons may be noted. The language, manners, and customs of England in the fourteenth century are to be studied, using various selections read by the teacher from the "Canterbury Tales" and other classic sources of information.

The Renaissance may now be taken up with the revival of interest in the classical literature and in painting, sculpture, and architecture with which study in earlier grades has given some acquaintance. The invention of printing and the work of Gutenberg, Caxton, and others are studied and the further evolution of printing and publishing is carried on in this connection to the present status of this important industry. The work of Leonardo da Vinci, Michael Angelo, Raphael, and Titian is studied as illustrative of the new interest in painting and sculpture. New discoveries in science are considered and the work of Copernicus and Galileo noted. The teachings of Savonarola are briefly noted as a part of this movement and as fore-

runner of the Reformation. As a further phase of the great awakening the discoveries in America are considered, and the voyages and explorations of Columbus, the Cabots, Cortez, Pizarro, De Soto, and Hudson are studied as to purposes and general results.

The Reformation and its results are studied, including the work of Luther and how he developed a following, and also the events of the reign of Henry VIII relative to the Reformation in England. The history of England is followed through the reign of Elizabeth, noting especially the danger from Spain and the Armada, the character and work of Drake, Hawkins, and Raleigh and the defeat of the Spanish Armada, and the life of sixteenth-century England with particular attention to Shakespeare and the theater.

As a movement in European expansion, the early settlements of Europeans in America are summarized and a short survey is made of the three types of colonial life in Virginia, New York, and Massachusetts. As an opportune time for comparison, a brief survey of the early settlement of the children's own state is also made here, if it is not one of the foregoing three states.

Later European events, as these relate to American history, are noted in connection with a brief review of American history to the time of the Civil War covered in preceding grades. In projects in practical arts, especial attention should be given to the period of the industrial revolution as particular inventions and their resultant changes are studied.

In the last weeks of the year, a summary may be made of American history from the beginning of the Civil War to the present. Emphasis should be placed upon the economic and political conditions operative in bringing about the war, the real issue which it represented, the results which came from it, and the problems in reconstruction which followed it. For the last fifty years, the chief attention should be given to the development of the country in agriculture, mining, transportation, industry, domestic and foreign trade, and in the applications of science and art in inventions and new comforts and conveniences in home life, travel, and recreation. Stress should also be placed upon our participating in a broader interest in world affairs, leading to war with Spain to rescue an oppressed people, to mediation in the Russo-Japanese War, and to a responsible share in the defeat of militarism in Europe and the establishment of a League of Nations for the preservation of peace. The territorial expansion of the United States through the purchase of Alaska, and the acquisition of Porto Rico and the Philippine Islands from Spain with the new problems of colonial administration should be included. The year's work as a whole constitutes a summary of the culminating movements in history which have brought America into a conscious world relationship. This great relationship means that America is now deeply and richly charged with responsibilities and opportunities to help all of the peoples of the world more

fully to participate in "life, liberty, and the pursuit of happiness."

Principles for the Selection and Organization of History. — 1. The approach to studies in history should be through problems in present-day life which can be understood or interpreted only by finding out how the present has resulted from the past, and through problems of conduct which may be solved from the guidance which may be derived from the past.

2. From the experience of the race, that should be selected which shows the means by which progress has been made and which therefore is the method of progress. That only is important which has made significant social changes from which we to-day are benefited in some way.

3. The changes in life conditions making for progress have been along three general lines:

a. The discoveries of resources of nature and inventions for the use of these resources.

b. The development of means of coöperation for the common good.

c. The expression of spiritual growth in literature, art, music, play, science, philosophy, and religion.

In the elementary school the study of each of these phases of life should be represented in proportion to their relative importance in interpreting and directing the life of to-day.

4. The subject matter of history should include selections from the whole range of human life from

its most simple beginnings. It should take those steps in progress which children can understand and from which the perspective of the whole human story can be derived. For the children the emphasis should be upon the practical, social, and political aspects of daily life which most clearly illustrate the growth of the race through individual initiative and group coöperation. Limiting the study to American history deprives the children of some of the most significant elements needed in the interpretation and direction of present-day life.

5. Both the general history of the race and the more detailed history of the American people should be included in the elementary school. The sequence should be in the order of significant steps in progress. The two lines of history should not be pursued at the same time except where their content becomes identical. The approach in both should always be from conditions of the present and comparisons should be very frequent.

6. The relationships between appropriately selected subject matter from history and other subjects — practical arts, geography, number, literature, fine arts, music, and folk games will often be very close. Such relationships should be used as fully as possible to intensify and enrich the content of the related subjects and to reduce the time element because of their mutual aid.

7. Each of the peoples studied should be considered in such wealth of detail that they will seem to be living

and acting in the present time. This will avoid the making of history a collection of fragments and will give it more of the continuity which is true of the story of race development.

8. For sources of material in history the children should not be limited to one text book or set of text books. A wide range of reading should be encouraged. Any historical material in museums or in the homes of the community should be used. A permanent habit in the reading of history as a recreational interest should be developed in many children through this study.

CHAPTER XIII

ENGLISH

Purposes Served by English. — By English we include all that has to do with effective communication by the use of our own language. We express ourselves in oral and written form, and we listen to others or read what they have written. Our purpose is to give or to get information, inspiration, or stimulation, or to give and experience enjoyment.

As is self-evident, to express ourselves adequately to others orally and in written form and to interpret the expressions of others in both forms, we must be able to speak, write, and read correctly and with ease. It is also obvious that language is a means or a tool and not an end in itself. The elements which enter into its use as a tool — the formal factors of spelling, punctuating, paragraphing, interpreting the symbols in reading, and other mechanical elements — are entirely subordinate to the actual mental activity in which language operates as a means. The mastery of these mechanical elements to a degree making their use practically automatic is a need quite apparent as soon as one realizes their use in situations requiring them. But one may become possessed of the use of the me-

chanics of language — one may learn the use of these formal elements in writing and reading — and yet know very little of how to use the tool which one now possesses to help in the life activities which are themselves important and significant. The only use one has for English at all is in connection with purposes serving the several worthy ends of life — it has no independent life purpose of its own. The great need is, therefore, to develop the mechanical elements in English in relationship to projects which will cultivate the means of using the language itself in furthering intrinsic interests. Projects requiring composition will bring out the needs for the mechanical elements of penmanship, punctuation, capitalization, correctness of expression, and so on. Without them the composition fails to communicate to another that which its writer intended. Projects requiring reading show the needs for knowing the meanings of the symbols and correctly and rapidly interpreting them. Without this, the help which the matter might give is not gotten.

Two problems, therefore, exist in English for the elementary school, that of teaching English *as a tool*, and that of teaching the *use* of English as a tool. The need for the mechanical elements in reading comes from an appreciation of the need to read — from a realization that by reading much help could be gotten in carrying on desirable interests, or much enjoyment could be experienced in reading for recreation. By

creating this feeling of need for reading and for all the mechanical elements in English, the motive or reason for the practice required to develop facility will make their mastery relatively easy. This is in harmony with the operation of the law of readiness and the law of satisfaction.

Projects in Which the Use of English Is Required. — Many projects in the practical arts and in geography and history require oral or written compositions, giving the results of individual investigations, of visits or excursions, of experiments, of proposed solutions of problems, of the relative merits of different ways of doing things, and of the individual impressions of conditions found or reactions to situations or problems. All of the forms of composition may be represented — description, narration, exposition, argumentation, poetry, dramatization, and so on — including both representation and invention. Vocabulary, spelling, diction, sentence structure, and the formal elements of punctuation, capitalization, and paragraphing, are all so inherently required to make the compositions carry accurately, forcefully, and elegantly the writer's thoughts and feelings that every factor important in writing will emerge in the degree of its importance. In dealing with practical arts activities and with the geographic controls and historic contributions, all questions upon which children may have something to say will tend to appear as integral parts of important projects. No occasion will arise for the teacher to

assign to the children for a composition a subject in which they have no interest and upon which they have little information. Indeed, if the questions to which the work leads in projects that are really significant to the children are used in developing expression, both oral and written, the present work in English that is inane and fruitless will disappear.

Projects in these same fields of interest require much reading for information needed in carrying them forward and in interpreting or explaining situations and conditions. In furthering the projects in practical arts and geography, some questions will be answered by observations in the home and community, some will be answered by experiments, and some by asking people who know. In a great many cases the answers will come from books, pamphlets, magazines, catalogues, or other printed matter. In history almost all questions of fact will be answered by books. All of these demands upon reading for information create needs for learning how to use books with intelligence and speed. How to find books and select among them, how to use tables of contents and indexes, how to work rapidly through chapters or paragraphs for the exact information desired, how to read tables, charts, almanacs, pamphlets, reports, and magazines economically, yet thoroughly, for one's purpose — all of these are needs in how to use books which the development of the foregoing projects will make evident.

Let it not be assumed that all of the reading required

in carrying on these projects in the practical arts, geography, and history is limited to books or other printed matter merely technical or scientific in character. Many life situations and relationships of both the present and the past are most clearly and vividly portrayed through the expressions of literature. Upon history and the uncolored record of the present we must depend for the statement of events. But for life situations, present and historic, portrayed with the intimate, living, sympathetic touch of literature, making characters seem as acquaintances and events as personal memories, we lead the children to appreciate the values and beauties of stories, and of epic, narrative, and descriptive poetry. Stories of adventure, discovery, exploration, conquest, invention, heroic achievement, and personal sacrifice all find their place in connection with activities by which social life makes its way forward. Much of such reading is used in giving a conception of human and historic background helpful in interpreting the meaning and significance of particular events or movements. In connection with these events or occasions, many poems are also used to give further appreciation of their idealism and of the beauty of expression which they have stimulated in some of those who have thought and felt deeply about them.

In the study of Roman life, for example, the background becomes appropriate at one time for "Horatius at the Bridge," at another, for parts of the play, "Julius

Cæsar." In studying the period of chivalry, and of the later middle ages, much light is thrown upon the life conditions of the times by reading the "King Arthur Stories" as retold by Church; "The Coming of Arthur," and "The Passing of Arthur," by Tennyson; the "Vision of Sir Launfal," by Lowell; and "Ivanhoe," by Scott. The decadence of chivalry is well impressed by "Don Quixote," as retold by Parry. In the study of the early New York colony, the "Legend of Sleepy Hollow" and "Rip Van Winkle" may be used to develop a feeling of the atmosphere of the time. At every period of school life, excellent selections of literature which may be read by the children or to them by the teacher are so closely connected with projects as suggested in the practical arts, geography, or history, that their meaning and value will be appreciated. These projects furnish the background for such selections. Often the selections provide an artistic finish for studies which help to impress a greater appreciation of the worth of the events. They create also a deeper interest and love for the beauty of form in which they are portrayed. "How Horatius Kept the Bridge," "Paul Revere's Ride," and "The Charge of the Light Brigade," cannot be fully appreciated without a knowledge of the meaning of these events in relationship to the time and larger movement of which they were parts. In turn the significance of the events is more appreciated and permanently impressed by the appealing and inspiring

form in which the poems present them. The facts of the period of chivalry help to make meaningful the "Vision of Sir Launfal," but the poem brings a crystal-clear vision of the heart and ideals of chivalry, not appreciated by the mere facts. In addition to the service such selections from literature render in direct relationship to these projects, they also serve as a means of revealing the possibilities of literature for recreational reading. They are the means for cultivating an interest in good reading and a taste for it. They lead to projects in reading for enjoyment, with no other object than the wholesome pleasure they give. This reading for enjoyment as the sole motive may appear in the first grade with a book of nursery rhymes, or the "Story of the Three Bears," or the "Child's Garden of Verse," just as truly as "Captains Courageous," or "Treasure Island," or "Little Women," may be read for pleasure in the fifth or sixth grades.

If the interest in good reading as a permanent form of recreation is to be developed in children, experience in such reading must be provided and desirable attitudes developed in school. Reading for enjoyment will have to be definitely separated from work in the study or practice of the mechanical elements used in reading. The method of reading both in books and periodicals outside of school suggests the method which might well be followed in school. How is a story in the "Youth's Companion" read in the home? Each member of the interested group reads the story

and the group then talk about any interesting points; or one reads it aloud to the others; or one member reads it silently, telling the others about it and perhaps reading the most interesting parts; or one or more members read it and enjoy it, but do not discuss it at all. Projects in reading for pleasure in school might follow this procedure, now using one form, now another, as the material and situation suggest.

The Mechanics or Technique of English. — As soon as children feel a need and a desire to read, the mechanics of reading may constitute projects in both oral and silent reading. The nature of the problem makes it necessary to give the major part of attention at first to oral reading. But with material which makes a strong appeal to the interest of the pupil, the work in silent reading may begin very soon after the development of a beginning vocabulary. Projects in practical arts and recreation activities requiring information which may be gained by reading, or projects in reading for the enjoyment of the stories themselves, should provide the motive or feeling of need for such word drills, practice in perception, and exercises in enunciation and expression as are helpful. Phonics and other helps in word-getting have no legitimate place until their need is realized and their aid appreciated. As fast as ability develops to master any mechanical element in reading, sufficient practice opportunity should be provided to make it an automatic, unconscious

factor in interpreting what is read. In silent reading, projects should lead children to see the need for getting information or for moving forward through a story rapidly, but at the same time gleaning the thought as they go. In poetry, where the enjoyment is in part derived from the beauty in the form of expression, children will readily respond to such modifications in the reading as are required to bring out the elements enjoyed. If beginnings are well made and the essentials of reading, both oral and silent, are strongly emphasized, projects in reading for the purpose of learning to read will not be required beyond the third grade, excepting occasionally as particular needs are revealed. In the third grade the work in reading as such may also often be much reduced. Reading for the information needed in other activities and reading for the enjoyment of the literature read become the only motives for reading after reasonable mastery of the mechanics is accomplished. Improvement in both oral and silent reading now becomes an incident of reading that is purposeful in promoting other interests. This factor is not to be neglected or ignored, but neither is it to be wastefully emphasized.

Spelling, the use of the dictionary, word analysis, attention to synonyms and antonyms, and other studies found to be needed in the most effective use of words, are all largely incidental to reading and composition. Specific projects in these will be required from time to time. In the earlier years the emphasis

will be required upon spelling, but much time may be wasted on spelling if the selection of words is extended beyond needs or if the teaching is not in harmony with the laws of learning.

Studies in the technical aspect of composition and grammar in the elementary school may be wholly in response to needs revealed in oral and written expression as used in other projects. As needs are seen for those technical forms usually found in language books, the teacher may lead the children to become conscious of those which they could meet by reasonable effort and initiate projects for their mastery. When the time comes that the technical terms for the parts of speech and the more significant properties of each can be learned and used helpfully, studies in learning the terms and using them may be planned. So, also, the more general and usable terms and relationships of sentence structure and the kinds of sentences as to use and form may be learned when the learning is appreciated for its helpfulness in speaking and writing or in interpreting what is read. Children themselves will rarely have projects in the technical elements of language excepting as these arise incidentally in their efforts to express correctly something which they have a purpose in saying or writing. If special lessons in the formal elements of language and grammar are initiated only in connection with such projects as will make these elements immediately usable in helping children to speak and write correctly, much time

that has hitherto been wasted will be saved for other desirable purposes. All projects in school must be regarded as including English. Speaking and writing are very much matters of habit. Eternal vigilance is necessary to secure the development of right habits. But these habits are habits in speaking and writing what we have to say — not in formal exercises where we have to say things merely to illustrate the forms in which habits are to be developed.

Sequence in English. — The content of English, the matter talked about, written about, and read about, is dependent upon the projects whose interests and needs are served by the speaking, writing, and reading. The sequence of these projects, therefore, determines the sequence of most of the topics discussed, and the compositions written, and much of the matter which is read. The words needed in spelling are those used in written composition, and, in the beginning, those in reading. In oral and written work, the forms of composition increase in range and relative difficulty as the experiences of the children increase. If expression is not clear, it is usually found that the thought is not clear. It is probably safe to assume that children from the beginning of school life can express clearly whatever they think clearly. As the range and complexity of thought enlarge, the capacity for expression should enlarge correspondingly. Oral expression will always be a little more spontaneous and free than written, because of the greater technical difficulty and

the relative slowness of written expression. To grade the specific formal elements to be taken up and arrange them in a definite sequence is indeed almost impossible with reference to any particular children. For teachers it ought to be sufficient to say that the help will be given to children from day to day in expressing what they have to say or write, as far as needs for help are revealed. Experience has shown about where in the usual formal school courses certain technical points may be taken up profitably for the first time. Courses of study in English usually indicate these points. But there is now evidence that this gradation would not hold in a school in which the work was made up of projects in all forms of interesting and socially worth-while participations. Wherever a substantial beginning in this direction has been made, tests have shown that the children grade up from one to three or four years above usual standards in English.

In literature, selections have been made in a sequence which was believed to represent the progression of interests and of ability to appreciate. On the whole, such sequences represent rather what adults think *ought* to interest children of various ages than the results of investigations of what children's interests *really are*. But what such interests are is highly variable and dependent very much upon backgrounds and opportunities. In the projects here set forth in practical arts, geography, nature study, history, and recreation, children experience the kinds of settings

and backgrounds out of which the most enduring forms of literature itself have grown. In no small measure, the arrangement of the sequence in literature here is but a matter of placing in connection with each year's projects the literary masterpieces which relate to the activities of those projects. One of the fatal errors in the reading of literature in most of the schools has been the want of any background for appreciating the significance of the selections read or for giving them any adequate interpretation. This has been particularly true of poetry. But literature is an expression of the finest forms of thinking and feeling about the things and people and activities and relationships which themselves have rich and precious significance and meaning. Until we experience something of this significance and meaning, we cannot much appreciate fine expressions of it. The appropriateness of the form of expression to the thought or feeling it expresses must be felt, or the literary purpose and value are lost. From the literary resources of the whole world available in English, those selections should be included in each respective grade for which the experiences of the children have given them a basis for understanding and appreciating. If enough has not been experienced to make the reading of a literary masterpiece a pleasure, it has failed of its primary purpose, for " to miss the joy is to miss all."

Work in English by Grades. Grade I. — In the projects in practical arts and other community activi-

ties, free, spontaneous expression of ideas is required for planning and in carrying on the work, and for reporting results of observations, of questions investigated, and of daily interests and experiences relating to these projects. This work enlarges the vocabulary. The teacher has an opportunity to find out such defects of speech as exist and to help in developing habits in using correct forms. When children express themselves poorly or have difficulty in making others see their meaning, the teacher may help them to make their own ideas and thinking more clear, resulting in improved expression. For projects in recreation, many stories may be told to the children and they in turn may tell stories, sometimes reproducing some of those told by the teacher which they enjoy having repeated. Some of the stories may be dramatized. Songs may be sung and other poems read to the children. Poems from Stevenson's "Child's Garden of Verse," are much liked, the "Mother Goose Melodies" are still enjoyed, and poems of occasion, as, "September," "October Gave a Party," "'Twas the Night before Christmas," and others are so much appreciated that the children will often memorize them voluntarily. The stories which may be told include, among others, myths and fairy tales, Bible stories, hero stories, and humorous stories. Through all of these forms of expression, a thought content is developing which counts for much when a desire to read expresses itself. Through the need for reading names and signs as used

on streets, in stores, and all about in the community, through the desire to read stories which have been told, and through the impulse to imitate others who read, a very genuine readiness for reading will develop in most of the children by the end of six or eight weeks in the first grade.

When the need for means of developing new words for themselves is felt by the children, projects may be carried out in developing the use of initial consonants, and the phonograms containing the most common vowel sounds, and phonic helps. As reading progresses and writing is taken up, the spelling of the more common words of the vocabulary used by the children is needed. In writing statements of the results of activities, the use of capitals in beginning sentences, in names of persons, and for the pronoun I, and the use of the period and interrogation point at the end of sentences are required, and may be taught.

Grade II. — Oral expression is extensively required in connection with projects in practical arts, community social activities, and the activities of early peoples. This broadening of ideas and thoughts builds up an extended vocabulary and a wider range of expression for thoughts and feelings. Information that is needed and stories that are helpful in furthering these various projects give motive for a part of the reading throughout the year. As reading for information becomes increasingly important, help is required in silent reading to develop ability in getting thought

accurately and rapidly. Reading aloud for the information or entertainment of others requires such attention to oral reading as will make it readily understood and pleasing to listeners.

Written records of work, invitations from the class, letters of inquiry or thanks, original stories or poems, and some other purposes for written English will require a number of new technical elements. These needs include the use of capitals in the names of the days, the months, particular places, and in verse; the simpler abbreviations, as Mr., Mrs., St., the home state, and those used in number; the comma with words of address; and the use of the apostrophe to show possession. Lists of words for spelling grow from daily work as needs call for these words in composition. Attention to syllabication as a help in spelling and word-getting may be given as the need for it is shown. Occasional needs for phonetic helps include work upon all vowel sounds except those which are obscure and such consonant sounds and blends as are found difficult. Dramatization in connection with various projects requires attention to freedom of expression and to organization of expression with reference to a plan and particular purpose. Some dramatizations are helpful in clarifying thought and may be used within a class itself for this purpose. Others may be carried to the point of presentation to an audience for their information and pleasure, or for their pleasure alone. In all oral work needs are fre-

quent for help in the use of idioms and for forms of correct expression. In all projects and on all occasions the child should be encouraged to feel that whatever he says should be said well.

Reading for pleasure may include some of the material connected with other projects, but it will also require the use of many stories and poems read solely for the joy they give. Myths, fairy tales, folklore, some fables, Bible stories, hero stories, humorous stories, and others of seasons, occasions, and of general human interest may all be included. One common danger in lower grades is that of starving the children's minds for want of literary material. Their needs should be fully met, but they should not be surfeited. By sufficient attention to reproducing or sharing their experiences, to dramatization, and to original expression, the danger in providing too much is avoided. Much opportunity should be given children to express what they think and how they feel about various situations in relationship to nature and human interests. Projects in practical and social activities offer occasions for such expression. The impulse to poetic expression is very common and its development should be encouraged. Through its creative efforts much may be done to cultivate a permanent interest in poetry and the moods of which poetry is the expression.

Grade III. — The projects in the broadening activities of the present and the past increasingly develop

new ideas, thoughts, and feelings, resulting in an enlarging vocabulary and a need for greater variety of expression. Studies in practical arts, geography, nature study, and history, all require more or less reading. Through some of this reading, acquaintance may be made with literature not only yielding help in the respective projects, but having sufficient appeal to be attractive as spare-time reading. Such books as Bayliss' "Lolami, the Cliff Dweller," Snedden's "Docas, the Indian Boy," Sumner's "Pueblo Folk Stories," Zitkala Sa's "Old Indian Legends," Longfellow's "Hiawatha," Arnold's "Stories of Ancient Peoples," Baldwin's "Old Stories of the East," and Sheldon's "Old Testament Bible Stories," are directly usable in connection with the work in history. Needs for the use of the library are apparent by this period, and much may now be done to initiate and develop good library habits.

To clarify thought and to give enjoyment children will express much interest in dramatizations in this grade, suggesting for dramatization selections from literature, stories from history, and folk activities of peoples both historic and present. Parts of "Hiawatha," the "Story of Joseph," the "Adventures of a Grain of Corn," and a Thanksgiving pageant are examples of what children have done in dramatization connected with these interests.

Technical problems continue to appear as larger needs develop. The form elements in letter writing

will now be needed in the increased demand for letters of request, invitation, acknowledgment, and thanks. Attention may be called to the possibilities of variety in expression, "saying things in different ways," until the most satisfactory way is found. To the arbitrary forms whose use has already begun, need calls for the addition of ability to use a number of abbreviations and contractions, quotation marks, and the comma after yes and no, when not used alone, and after the names of persons addressed.

The greater amount of written work in letters, reports, summaries, dramatizations, and original stories or poems calls for many words in spelling, and lists for study may be made of such words. Further work on phonograms and blends may be needed as projects in reading and spelling will determine.

Stories and poems read by the teacher to the children, or by the children for enjoyment, may include selections from a wide range of sources to meet the variety of interests felt. Some care will be needed in meeting this variety of interests in selecting only such stories, or poems, as may be sufficiently clear in meaning to enable the children really to enjoy them.

Grade IV. — The demands for reading to secure helpful information in practical arts, geography, and history lead to the use of a wide range of material in newspapers, magazines, and books. Because of the quantity of reading matter which it is desirable to use, children may need much help in learning to read silently with

speed and effectiveness, and in how to find and select sources with economy of time and effort. The whole problem of how to use reference books and periodicals and of how to use or apply what is read in furthering projects will be large. Extracts from books or magazines and reports will be read aloud in class. This will indicate such needs as exist for help in oral reading. Reference to the projects in practical arts will indicate that readings will be required relative to the fishing industries, production and manufacture of cocoa and chocolate, rice, silk, felt, leather, lumber, and pottery; work in geography requires readings relative to a number of occupational activities and the conditions of their control in such a variety of regions as to develop a general notion of the world as a whole; and history as related to the contributions of the Greeks and Romans, and also to the period of the American Revolution, will require much reading, both for specific information from historic sources and for securing an appreciation of atmosphere and humanistic values from literary sources.

In all of these studies the needs will be large, also, for written work, giving occasion for teaching such technical elements of written language as the children are able to use in improving their composition. The need for the use of the dictionary, both in reading for meanings and pronunciations of words, and in writing for spellings, proper forms, and synonyms, will require definite studies in the methods of using the dictionary.

The work in Greek and Roman history calls attention to many Greek and Latin word forms, and creates an interest in much important word study. In compositions, problems in construction to make meanings clear, effective, and pleasing in form make it desirable to be able to know and use the terms sentence, subject, predicate, common and proper nouns, pronoun, and verb. All of the more common arbitrary marks, signs, and forms in various kinds of composition may be needed and may be taught where the purpose in making clear and effective presentations of matter is evident to the children. The kinds of composition may include letters of inquiry to manufacturers for information about their processes and products, to producers' associations for information about their methods, to producers or salespeople for advertising matter, to railway or steamship lines for routings and time schedules, and to places requesting the privilege of visits; letters of thanks for favors received, of invitations to others to come to see, or participate in, the grade's activities, and letters to exchange ideas and experiences with children of other schools; reports of experiments, investigations, readings, or excursions; the presentation of a point of view, personal impression, or argument on topics of class interest; and stories, poems, and songs, to express interpretations or impressions of activities for a school paper or a local newspaper. In composition work to meet these and such other calls as may arise, the needs will be evident for

spelling and for other technical elements of written expression. These may receive attention through special projects in such order and by such selection as the teacher concludes will best serve the needs, considering the ability of the pupils.

For recreational reading, the background in practical arts, in the geography of widely varying peoples and regions of the earth, and in the history of the Greek and Roman peoples and of the period of the American Revolution provides contact with an extended range of literary material. Stories about the lives of peoples in China, Japan, the Philippines, Australia, Africa, South America, Mexico, and in some other lands may be brought to the attention of children in direct connection with the activities of particular peoples studied in geography.

Such stories as "Tanglewood Tales," the "Wonder Book," "Stories from Greek Tragedy," "Stories from Greek Comedy," "Homeric Stories," "Gods and Heroes," "Story of the Æneid," "Stories from Livy," the "Story of the Romans," "Ode to a Grecian Urn," "Horatius at the Bridge," and the "Brave Three Hundred," are illustrative of sources of reading for enjoyment, for which the projects in early history give a point of approach and a basis for understanding. But current events, seasons, and occasions, and the insatiable curiosity of children in adventure, deeds of daring and heroism, animal life, and the unusual in the world of science, are also all motives for selections in

spare-time reading. The library habit, begun in an earlier grade, should be further developed and aid given to children in finding out about wholesome literature which will both satisfy their immediate needs and tend to cultivate a taste and permanent interest in more reading of high standards of literary quality.

Grade V. — All that was said of the occasions and kinds of reading and composition for Grade IV and the needs of technical helps, with the method of meeting them, applies equally to this grade. The definite content of the projects in practical arts, geography, and history is different, but in each field there are the needs for closely related readings and work in composition to carry the projects forward. Greater facility in silent reading will be required by the wider range of reading matter now open to the pupils, and further help for developing this facility and for the use of reference and other books most economically and effectively will be required from time to time as new problems arise. Dramatization should continue to be a means of help in clarifying thought and in utilizing an interest in original composition and presentation of dramatic situations.

In the work in composition required by the various studies, particular needs in sentence structure may receive attention to aid in expressing thought clearly, pointedly, and forcefully. Needs for help in the use of complex and compound sentences may require especial attention to the use of relative pronouns and con-

junctions. Problems arise in plurals and possessives; in the correct usage of such forms of the pronouns as "It is I," "It is she," "If I were you," "It is for you and me," and other similar constructions; in the correct use of the common irregular verbs, and the use of verbs expressing exactness of meaning; and in the selection of appropriate adjectives. Further needs for help in sentence structure may lead to ability to distinguish the complete subject and the complete predicate, and the simple, complex, and compound sentence. Attention may be needed to possibilities of changing the sentence order, the use of negative and positive sentences, and of comparison and some other devices for securing variety in expression to avoid repetition, monotony, and obscurity. The continued use of the dictionary may require some help to make its use more effective with reference to diacritical markings and other aids to pronunciation.

In the reading required by practical arts, geography, and history, many current newspaper and magazine references are used. The period of medieval history brings a background for the reading and enjoyment of many books, as does, also, that of the period of American history following the Revolutionary War. "The Last Days of Pompeii," "The Story of Roland," "The Story of Siegfried," "Viking Stories," "Norse Stories," a "Short History of the Norman Conquest," "England's Story," "The Boys' Life of Sir Francis Drake," "In the Days of William the

Conqueror," "A Connecticut Yankee at the Court of King Arthur," "King Arthur and His Knights," "Men of Iron," "Chivalric Days," "Robin Hood," "Life of Daniel Boone," "David Crockett," "The True Story of Columbus," "The True Story of George Washington," "American Inventions and Inventors," "Four American Pioneers," and Cooper's "Leatherstocking Tales," are among many books relating to the life and times covered by the history work of this year. Much individual reading as recreation, both in school and out, may be encouraged, including the use of current magazines and papers as well as of books. Children need help in becoming acquainted with the possibilities of magazine reading. Inquiries about such reading will readily show this need. By helping the children with their reading, that excellent selections may be genuinely enjoyed, very much may be accomplished in this year in cultivating taste and in establishing a permanent interest in literature of wholesome and helpful quality. If it is read aright, such an appreciation of the beauty of some of the poetry read may be expected that pupils will voluntarily memorize selected parts.

Grade VI. — Projects in the various activities of the practical arts, geography, history, recreation, and the social life of the school in all of its enterprises, require compositions on various common forms — letters, records, reports, presentations of points of view, arguments, and idealizations of situations and experiences

in prose and poetry. Oral expression and these numerous written compositions reveal many needs for help in the use of correct forms. Technical facts and principles introduced in earlier grades should be reviewed and such new principles of usage added as can be appreciated for their help in speaking and writing. No effort should be spared to cultivate a desire to speak and write with accuracy, precision, and some degree of elegance. The common forms of correct usage should become fixed habits, and the laws of learning which apply to habit formation should be followed. But in so far as possible the reasons why one form rather than another is right should be developed as occasions bring questions of form to conscious attention. The guidance furnished by a knowledge of the parts of speech and their most common properties, and of the simpler principles of sentence structure, may very materially help pupils in self-direction in the choice of words and forms and in self-stimulation to the practice of correct usage.

The vocabulary is rapidly enlarging through the widening interests of projects in the various fields. There are many new words to be used which will require continued attention to spelling. By the needs for getting the meanings of words quickly and using them with readiness, studies will be found profitable in finding out about root forms, prefixes, suffixes, and the more common ways in which derivative words are built up and their meanings interpreted. These chil-

dren have a wealth of ideas developed through the range of projects, in learning about the meanings of activities in this and preceding grades. They have had practice in thinking out the steps in projects with that clearness required to carry them forward. They have been required to express thought with that precision necessary to group coöperation. With this experience in developing and expressing thought and feeling children should be able to use a quality of English far in advance of children of the sixth grade who have had but the usual relatively empty and formal school experiences.

In literary prose and poetry read, help may very profitably be given in developing appreciation by directing attention to fine illustrations of the qualities of style. This will include choice of words and phrases and other elements of clearness, force, and beauty. With the rich background of race experience derived from the projects in contemporary life and in history, literature may be made to yield so much genuine enjoyment and satisfaction that it becomes a permanent source of recreational interest.

In the numerous practical arts projects of the year much reading is required which helps to acquaint children with the splendid achievements of the last century in discoveries, inventions, and the applications of both natural and social science. The outstanding characteristics of the men and women who have made these contributions should appeal to the better in-

stincts and ambitions of children in this period, and the use of much reading of selected biography should be encouraged. The practical arts work and the history for this grade often come into very close relationship, and both are also often closely associated with work in geography. The reading required by them centers about the large and important events, influences, and changes of the more immediate past as these interpret and permeate the life of the present. The evolution of national and international relationships through the development of natural resources and the growth of trade, commerce, and facilities for land and water transportation furnish studies in economic geography filled with elements of adventure and romance. The changes in agriculture, industry, home life, and social relationships include such inventions and their applications as are associated with Marsh, McCormick, Appleby, and Wood, and the development of harvesting machinery; Arkwright, Crompton, Whitney, and Jacquard, and the development of spinning, weaving, and the textile industries; with Watt, Stephenson, Fulton, Stevens, and Ericsson, and the development and application of steam power; of Franklin, Henry, Morse, Vail, Cornell, Field, Wheatstone, Bell, Edison, Tesla, and Marconi, and the development of electricity and its application in telegraphy, telephony, lighting, electroplating, and as a source of power in driving machinery, trolley and railway cars, motor boats and automobiles; with Langley, Wright brothers, and

others in the development of airplanes; with Howe and Singer, and the development of the sewing machine; and with a host of other inventors and inventions transforming almost every phase of life and bringing about social problems and relationships for the twentieth century of which man did not even dream in former centuries. Such are some of the opportunities for projects in which children of this grade may engage. The reading which they will require for the information needed includes a wide range of books and periodicals on geography, natural science, history, economics, and political and social science, some purely technical and some semi-technical or popular. The readings which may be further helpful in producing attitudes and appreciations of the more fundamental humanism in the effects wrought by the changes of the last hundred years include many selections from literature in both prose and poetry. Selected poems of Longfellow, Whittier, Holmes, Lowell, Bryant, and others, relating to events, occasions, times, and peoples in American life may be made effective by these associations. Books by Irving, Hawthorne, Cooper, E. E. Hale, Mark Twain, and others, including Jackson's "Ramona," Page's "Red Rock," Churchill's "Crisis," Riis's "Making of an American," and Roosevelt's books on American life, are suggestions of American literature relating to the economic, political, and social development of America. Many books usable for this grade also relate to the studies for this year in

European history, particularly to the life of the English people. Some of these will help to develop in the children a clearer appreciation of modern European life than can be derived from the mere events of history. Readings of conditions, activities, and events of the recent war are not to be neglected for such values as they have, but care is necessary to avoid distorted or exaggerated conceptions.

For additional reading as recreation, children may be helped by leading them to appreciate the variety of possibilities through the use of the individual reading method, and by encouraging the discriminating use of the library. Reports of individual pupils and teachers upon the books or magazine articles in which they find enjoyment, are a stimulating means of broadening interests. Reports upon magazine readings will reveal needs for help in getting acquainted with the field of magazine literature and in cultivating taste and discrimination in short story reading.

Principles for the Selection and Organization of English. *Spelling and Word Studies.* — 1. The selection of words to be studied should be based wholly upon needs which are revealed by written work and by problems in the recognition and pronunciation of words in reading.

2. Those words only which are misspelled should appear in spelling lists made up from day to day. These words should be taught by definite attention to their respective difficulties and practice given in writ-

ing them until they are learned. Reviews from time to time should be provided to prevent lapses for words not written with much frequency, or words offering special difficulties.

3. When sufficient capacity is developed, children should be definitely instructed in the most rapid and efficient methods of using the dictionary for both pronunciation and meanings.

4. As a part of the study of content in every subject, as occasion offers, attention should be called to the exact uses of words in expressing meanings, of the root significance of parts of derivative words as a help in getting meanings, of the uses of synonyms and antonyms for variety of expression, of the origin of particular words as these are found in their setting in history, literature, geography, or the practical arts, and of all other situations which may serve to develop interest in words as representing ideas and to make children increasingly intelligent in their use.

Penmanship. — 1. Penmanship should be taught in relationship to needs which will make legibility the most essential factor. When this is permanently established, speed may be emphasized as important, but as an element to which legibility should not be sacrificed.

2. Penmanship scales should be available to children, and they should be made familiar with the use of the scales and with the standards appropriate to their respective grades. They should be required to

attain the proper standard as quickly as reasonably possible and to maintain it. Practice to advance beyond the standard should be optional with the individual pupils.

Composition. — 1. All work in composition, both oral and written, should be made up of content which serves some purpose entirely apart from language forms as such. All expression should be for the sake of the value of that which is expressed. Attention to form should be wholly for the purpose of improving the quality of specific expression in the elementary school.

2. If the projects in practical arts, geography, history, and other content interests are carried forward by the most desirable methods, reports, letters, accounts of investigations and experiments, arguments, and original stories, poems, and dramatizations for recreational pursuits will provide all varieties of both oral and written composition, and through these, needs will be revealed for aids in language forms and structure.

3. As needs for aid in language forms and construction are revealed, selections of those elements which are most helpful in the improvement of the expression of the children of the particular grade should be made the basis of definite study until changes in expression in these particular factors are accomplished.

4. The sequence of technical language forms and construction to be taught should be so organized that,

in each year a definite, minimum number of points are covered, these to be adapted to the capacity and experience of pupils in the respective grades. Beyond this minimum such other points should be taken up as may be appropriate to the needs and capacities of the children.

5. As aids in the development of expression, children should learn to use the names of the parts of speech, the terms for gender, number, person, case, and tense, the kinds of sentences as to use, and such other simple terms and principles of grammar as can be readily understood and intelligently used as a result of language experience and in response to language needs. No attempt should be made to develop any of the more complex and difficult generalizations of grammar for which children do not have adequate capacity.

6. The test for introducing any technical element of language, or grammar, in the elementary school, should be evidence of genuine need for it as personally felt by the pupils, and of capacity to make immediate application of it in the improvement of expression.

7. As an aid in the development of language interests and capacity in expression, constant usage should be made of excellent illustrations of effective and elegant English. Attention should be called to fine examples of expression wherever they occur in the reading of history, literature, or science.

Reading. — 1. The material in reading should be selected on the basis of its values in contributing infor-

mation, inspiration, or enjoyment. Reading which is for information should be chosen largely in direct relationship to projects which require the information.

2. Before the teaching of reading is begun a rich content of good stories and poems should be given, furnishing interests and a vocabulary to be used in the first work in reading.

3. In the reading matter used for practice purposes in the period of learning the mechanics of reading, material of good quality should be used, but its construction should be very simple. After the earliest phases of reading have been covered, an extensive quantity of reading in much variety should be provided, all sufficiently simple in form to give freedom in recognition and fluency in expression.

4. Phonics, word drills, perception drills, and other devices to help in the mechanics of reading should be taken up only as needs for them require, and to the extent in which they serve to improve the reading. They should not be carried to a point beyond which their relationship to the use made of them is lost.

5. Projects in other subjects which require much reading to secure information needed in their pursuit should provide the occasion for the development of efficiency in silent reading. The reading of reports and extracts in such projects, and the reading of literary material effectively, for the enjoyment of others, should be the occasion for developing efficiency and some degree of elegance in oral reading.

6. Needs revealed by inefficiency shown in both silent and oral reading should be met by special studies in method in each form, using such materials as will best illustrate the points on which help is needed. However, for drill purposes there should be no use of material for which loss of appreciation would be a serious matter.

Literature. — 1. The selection of reading material for enjoyment should be of such quality and variety as to develop taste for the finest and best in literature, and should stimulate growth toward increasingly higher levels of literary appreciation.

2. The sources from which literary selections are made should be world-wide, and as varied in interest as the activities of life which have found expression in literature.

3. Every subject of study — history, geography, the practical arts, and the fine arts — should be so developed as to cultivate intellectual interests to such a degree that habits will grow in reading from all other kinds of wholesome matter in addition to literature as such.

4. Many selections from literature should come in direct connection with projects in practical arts, history, or geography, which furnish the backgrounds or settings which simplify their interpretation and increase their enjoyment.

5. Literature should be read primarily for enjoyment and appreciation, and it should never be used

for any other purpose to a degree that will in any way diminish its enjoyment.

6. Current reading matter should be extensively used, as it relates to current life interests and expresses present literary interpretations. Children should be helped to read newspapers, magazines, and new books with discrimination, and to select that which is of most genuine interest and value.

CHAPTER XIV

FINE ARTS

What Is Meant by Fine Arts. — The fine arts express feelings of beauty and pleasure through the use of harmonies of line, tone, and color. The laws which guide in making such harmonies are the principles of design. Attempts to apply the principles of design are met at every turn in daily life — in textile fabrics, costuming, and rugs, in buildings, in household furnishings, in utensils and tools, in books and other printed matter, in yards and grounds, and wherever man has planned or made anything of materials. Design is also seen in the less common products of painting and sculpture.

From the most primitive times, man has not been content to stop with the mere quality of utility in the products of his handiwork, but has attempted to satisfy an innate desire to beautify them. While all peoples express this desire to beautify their products, they differ very greatly in their standards and ideals of beauty. The Greek people, the Italians, and the Japanese are examples of peoples who have reached very high standards in their conception and applications of the principles of design. Individuals also differ very much in their ideas and feelings of what is

beautiful. But among all peoples and individuals there is a desire for that which is beautiful in form and color, and underlying all the varieties of expression the same fundamental principles are found to apply. By a conscious endeavor to find out the most essential nature of these principles and how they most appropriately may be applied in beautifying the objects of daily life, there may be developed relatively high common standards of beauty and a love of them.

Drawing and Coloring as Distinguished from Design. — Drawing and coloring are the tools used in design and as forms of expression for conveying ideas not readily expressed in words. In representation and mechanical drawing and coloring there may be no art purpose whatever — the purpose may be wholly one of representing form and color. In the drawing of the apparatus used in experiments, or of the parts of a flower to give an accurate picture of their form and color or of the relationships of parts, there may be no art purpose. In the mechanical drawings serving as guides to construction, the use of the drawings is that of tools to convey correct ideas of form and relationship. When, in explaining the form or construction of an object, drawing is used as an aid, the purpose of the drawing is to make ideas clear, not to express feelings of beauty. Drawing and coloring, both free-hand and mechanical, are therefore to be regarded as tools, as the technique of a language for expressing ideas more effectively than the same ideas can be expressed in

words. A need for drawing is felt by all persons for this purpose of more clearly expressing ideas. The development of drawing as a tool is by the same process as the development of any other form of technique — penmanship, the correct use of words, or the mechanical part of piano playing or skating. The method is by getting right ideas of what is to be done and how to accomplish the given result. The rest is a matter of habit formation. Any one of normal ability can learn to draw reasonably well. The differences in possibilities of attainment are in the differences in individuals, in clearness of ideas of form and in degrees of motor control. Nothing of what we call originality is required. But in design it is a very different matter. Drawing and coloring are used very extensively by the designer as tools, and he must have a reasonable mastery of these tools. But success in design lies in the originality in feeling fine qualities of form and color and in expressing these. We may say that drawing is to design as grammar is to literature — a tool for correctness of expression. That which makes discourse literature is invention, originality — a selection and expression which appeal to feeling. The same elements of invention and originality appealing to feeling but expressing themselves in lines, tones, and colors instead of words are required in design. As in literature, the number who have any very large degree of originality in design are few. All normal persons have some ability in both forms of expression.

But while high creative capacity is possessed by few only, all have very considerable ability to recognize and enjoy the beauty created by the few, both in literature and design. All may use the products of graphic and plastic art as well as of literature. But in both fields much cultivation is necessary that a discriminating knowledge of standards may be developed, that an acquaintance with the wide field of possibility may be made, and that a wealth of experience may result in a genuine appreciation of that which is finest.

Free Hand and Mechanical Drawing. — In general, European schools develop a much greater degree of skill in drawing than our American schools in the elementary period. But they give relatively little attention to design. Design is taken up later by those only who are interested in some form of production, art or industrial. Both at home and abroad, mechanical drawing is largely omitted from the elementary school.

It would seem that our schools should develop more skill in free hand and working drawings than is usually accomplished in the grades. When our high school pupils attempt to make a drawing of apparatus used in science, their efforts are often little less than disgraceful. Few are capable of making even the simplest working drawing. So much is attempted in drawing in the elementary school that is without any motive and very superficial that there seems to be much waste in teaching it.

By limiting the work in drawing to that having genuine motive, and then, when needs are revealed, giving sufficient help and practice to make these drawings well, we could develop much more skill by the end of the elementary school period than is usual in making the kinds of drawings we need to make in everyday life. Simple working drawings — plans to be followed in constructions — are needed in the grades almost from the beginning. Enough of the simpler elements to meet all needs for working drawings of such forms of construction may well be given as they are needed — not as a course in mechanical drawing, but as an integral part of the practical arts studies in which they are needed. By limiting the drawing to genuinely motivated situations and by stimulating sufficiently high standards to get that which is required done well, our schools could probably produce both a greater degree of skill in drawing and a finer capacity for designing and appreciating good design without neglecting either.

Drawing, Painting, and Sculpture as Fine Arts. — In its common and everyday usage design is employed in beautifying the material objects of environment. But it is also employed in interpreting the experiences of life. The cartoonist by drawing interprets the attitudes and meanings of people, events, and occasions by his selection and portrayal of their most characteristic or striking features and arouses in us thoughts and feelings relative to them which tend to correspond

with his own and to influence our attitudes and our actions. The painter and the sculptor likewise so portray their interpretations of people, events, occasions, situations, forces, and qualities that an appeal is made to our feelings as well as our thoughts, and our conduct is correspondingly influenced. In general, we may say that the painter and the sculptor portray three forms of inclusive subjects : First, the idealistic interpretations of common things, as in such pictures as Millet's "Sower," and "Old Woman Churning"; Dupré's "Escaped Cow," "Watching the Balloon"; many landscapes; and many scenes of occupational activity where the commonplace and the ordinary are exalted by such a selection and presentation that feelings or moods are awakened by them. The second general class of subjects may be called the symbolic interpretation of the forces and phenomena of nature as these enter into human experience. Illustrations of these are such subjects as Reni's "Aurora"; Corot's "Spring"; Thorwaldsen's "Morning," and "Night" ; Mauve's "Spring," and "Autumn." The third general type of subjects represents the symbolic or spiritual interpretation of human qualities or characteristics. It covers the whole range of hopes, aspirations, disappointments, triumphs, and sufferings of human life. As in the second class, it often attempts to make tangible through an appeal to the eye that which is in itself invisible — that which is experienced as thought and feeling

only. Such illustrations as Correggio's "Holy Night"; the various "Madonnas"; Angelo's "Moses," and "Three Fates"; Thorwaldsen's "Lion of Lucerne"; Watts's "Charity"; the Greek "Mercury," and "Victory of Samothrace"; and Da Vinci's "Mona Lisa" indicate the range of these subjects.

In all of these fields, whether the portrayal be as drawings or paintings, in relief, or as statuary, the artist has so selected and presented the subject as to make an appeal to feeling. The quality of the production is the degree in which it both represents and expresses a mood or feeling of universal interest. In the use of the masterpieces of painting and sculpture to aid in the interpretation of life values and to appreciate their qualities of beauty it is the artist's purpose which must be first realized and then the appropriateness with which he has expressed it.

The Purposes Served by Fine Arts. — The fine art problem largest in everyday life is that of so selecting the material supplies and conditions of our surroundings that they may be a constant source of enjoyment and delight to us. In general, we do not design the textile fabrics of the garments we wear, the houses we live in, the rugs, furniture, china, or other household furniture we use, or the multitude of tools, implements, and other material supplies which we require in daily life. We purchase most of these, and we exercise such knowledge and appreciation of art values as we have in selecting them. We may

select textiles which are beautiful or ugly in design; we may costume ourselves in good taste or poor; and we may furnish our houses with rugs, hangings, tables, chairs, bookcases, and other furnishings that are well designed and which are in harmony with each other, or we may surround ourselves with furnishings of poor design and with an entire lack of harmony among themselves. All depends upon our knowledge of art principles and their application, and upon our taste. Products in all grades of design from very poor to very good are available. Even at very low cost one may dress and furnish the home in good taste. By creating a universal demand for that which is well designed an elimination of products in poor design could be accomplished. The purpose served by beauty in our surroundings is to give satisfaction and enjoyment, a reason sufficient of itself; but beauty contributes also an influence in producing a tone or attitude that is wholesome and ennobling. The educational purpose of the projects in design and the applications of design to the objects of everyday usage is to develop a knowledge of what is good and to cultivate a love for it in order that selection may be intelligent and satisfying.

The purpose of studies in the enjoyment of paintings and sculpture is to cultivate appreciation of the beauty of design as it enriches and deepens the meaning and appeal of a situation, occasion, event, or conception. Such artistic presentations both satisfy by their beauty, and influence character and conduct by their

stimulations. A fine expression of this deeper purpose of the artist is found in the words of Watts, the painter of Sir Galahad: "My intention has not been so much to paint pictures that will charm the eye as to suggest great thoughts that will appeal to the imagination and the heart, and kindle all that is best and noblest in humanity."

The Beauty of Nature as Distinguished from Fine Art. — Nature is full of the beauty of form and color. But this is not art. Art has to do with the beauty produced by man. Art derives unlimited aid from nature. Many things in nature are also made more beautiful by the application of the principles of design. In developing an increased love of the beautiful both nature and art may be used quite continuously and should be. In cultivating an appreciation of the use of design as applied in the objects and materials of environment, and in the products of painters and sculptors, there is almost unlimited opportunity to direct attention to the beauties of form and color in earth and sky, through day and night, in the seasons as they come and go, and in plant and animal life as it varies with time and season. Adaptations of the beauties of form and color in nature are constantly used by artists, and the more intimately and appreciatively these are known the more the enjoyment of their appropriate and skillful use in works of art.

The Purpose in Art Teaching Determines the Content and the Method. — Since the purpose in the study of

art in the elementary school is not that of training in artistic production save as this serves other ends, but is to develop intelligence and appreciation as a basis for selecting and enjoying, the projects will require emphasis upon the meanings of the principles of design and the beauty resulting in their application, rather than in the development of much skill in art production. In the elementary school we do not study poetry in order to learn to write poetry, but to enjoy reading it. So in art, we study beauty as found in artistic productions that we may enjoy it. We believe that in the measure in which both are expressive of deeply significant motifs or themes both "will appeal to the imagination and the heart and kindle all that is best and noblest." But, as a means of really understanding and appreciating, it is necessary, or at least fundamentally helpful, that in the study of both much creative effort should be experienced. Children have many conceptions and feelings which they desire to express in poetic form and through attempts to do this they learn much that helps them to a higher appreciation of the poetry of others. But much more general and intensive is the impulse to expression in the space art forms, particularly as relating to the beautifying of whatever is made. The constructive impulse leads to the making of representations of almost every variety of material product used in the home or community. The practical arts projects utilize this impulse to further the knowledge of economic, hygienic,

and social values important in present-day life. These same projects are at once the most genuine and vital opportunities in the expression also of the art impulse. Each constructive project includes likewise a problem in design.

Questions of the appropriateness to their purpose of materials chosen, of forms as adapted to the purpose, and of harmonies of line and tone and color enter into the designing of every piece of furniture constructed, every dish or bowl made of clay or metal, every book, calendar, or card made, and every other project in construction, whatever the material or purpose. In such projects designs may be made by the children, using whatever ideas and feelings of originality they have. Out of the problems in the designing itself emerge the needs for the guidance of principles. The need for principles is again evident when selections are made. In buying a hat which will be pleasing in line, tone, and color, and all of these in relationship to the person who is to wear it, the problems in design are just the same, as to the application of principles, as in planning the hat if it were to be made. In purchasing a rocking-chair the principles of design are the same as those involved in planning a rocking-chair for the same purpose. After one has experienced the problems involved in designing and making an article, the significance of the design elements in similar articles made by others is altogether greater. If one has designed and made a hand-woven rug, and in

addition has found out about the ways of making rugs by different methods, learning of the limitations of the materials and of the difficulties of securing various effects, his appreciation of what is well designed and executed will be very much greater than that of one who has had no such experience. To realize the purpose for which art projects are of value in the elementary school requires much experience in designing and in considering design in its applications. With children, if we expect to develop an appreciation of good design in clothing we must have projects in design as applied to clothing; for appreciation of design in homes, projects in design as applied to homes; for appreciation in china and other pottery, projects in design as applied to china and other pottery. We cannot teach abstract principles of design to children and expect them to make applications of these principles for themselves to the various kinds of constructions in which they are required. We have found that we cannot succeed by this method in arithmetic or language, and there is no evidence to indicate that design is an exception. In design, as in arithmetic or language, after finding a need for a technical process, the handicap felt by not having facility in this process will often create the need for drill work in mastering the process. But drill in perfecting a habit or process fully appreciated for its use and worth is a very different matter from drill upon a process for which no personally appreciated reason has been experienced.

Projects Requiring Design. — Every project in construction in the practical arts, in history, and in geography is a project requiring design. Every project also in the practical arts, in the selection or planning of material utilities, requires considerations of design as a factor in determining choice.

School experiences in designing and selecting should develop a permanent habit of making the question of good design of articles themselves, and the harmony of the designs with the surroundings with which they must fit, just as important and certain as questions of their durability of material and construction, and their cost.

No grade sequence in design is here offered apart from the projects requiring design as these appear in practical arts and other subjects. The gradation of projects is such that the design requirements for carrying them forward are in a sequence as nearly natural as could be devised in our present state of knowledge.

In each grade are projects in foods and table service, some of which involve design in arrangement, placing, and color; projects in clothing which involve much design relative to textiles of all kinds, garments, hats, shoes, and other clothing materials; projects in shelter which involve design in relationship to architecture, to house interiors, to the planning appropriately of each room, to furniture, and to all other articles of house equipment; projects in utensils, involving

design as applied to baskets, boxes, bowls, vases, dishes, and utensils for all purposes and of all materials; projects in tools and machines, involving design as used in making knives, forks, pencils, paper knives, saws, hammers, sewing machines, electric motors, engines, automobiles, and the entire array of facilities and devices for doing the world's work; and projects in records which have uses for design in making books, magazines, calendars, cards, posters, and all other forms of work from the printing and publishing industries. In every one of these projects the applications of the principles of design are considered in the particular way which the form or nature of the material requires to render them most beautiful. The relationship is therefore direct between design and its various uses to make our surroundings pleasing and ennobling.

In developing conceptions of good design as applied in the various fields, much usage of good examples is required. To illustrate a given principle in textile design many samples of textiles showing it should be used. Children are glad to bring small squares of textiles to school, and a permanent exhibit of such samples may soon be built up. Visits may also be made to stores to look at new samples, and pictures in magazines and books are often helpful. For illustrations of furniture design or of design in china and other pottery and glassware, visits should be made to homes in the community, to stores or shops, and

to museums, where available, to see varieties of design as produced and used to-day and in the past. Catalogues of salespeople, periodicals, magazine advertising, and books dealing with the respective fields may also be used to advantage. In some fields, as in furniture and china, many historic connections with designs and with terms used may be traced and found interesting and illuminating.

Projects Using Painting and Sculpture. — Inasmuch as the masters in painting and sculpture at all times have reflected in their work the dominant interests of the period in which they have lived, many of the finest products of their art are closely related to projects in present-day life activities and to those in history. Pictures which are idealistic interpretations of the scenes, situations, and meanings of the occupational, home, and community activities of peoples in various countries and times are appreciable to children in almost any grade when any kind of background providing an avenue of approach is developed. The Tissot Old Testament Bible pictures are very helpful in the study of Hebrew life in the third grade; pictures and sculpture by the Greeks themselves and of Greek and Roman life by other masters help to make these peoples seem more real to the fourth grade; scores of pictures relating to later European history and to American history are of value in upper grades. Many selections in literature are well supplemented by pictures giving an artist's interpretation of some of

their situations or characters. Nearly every industry may be made clearer in its historic development by the paintings of the masters relative to it. The story of writing, printing, and bookmaking may be traced in nearly a hundred pictures by master painters of different periods in history. Pictures of master painters may also be very helpful in giving vivid conceptions of the world's peoples as studied in geography. The moods of nature may likewise make their appeals through the interpretations of many paintings.

In illustrating principles of design or means of expressing various forms of position, action, placement, arrangement, atmosphere, or mood, selections from the masterpieces in paintings are often very helpful. Just as in English we use freely the best examples from literature to illustrate fine ways of expressing thought and feeling in words, so too we may as effectively use fine examples from the artists to show excellence of expression of given thoughts or feelings, both for their values as an aid in self-expression and as a means of giving the children the pleasure of their acquaintance. A single illustration will show some of the possibilities. When, for example, the problem is to show persons in action, such masterpieces may be used as the "Sower," "Aurora," "Atalanta's Race," "Greek Girls Playing Ball" "The Helping Hand," and "The Spirit of '76." These are all pictures alive with action, but they differ greatly in the varieties of action shown. Almost every quality which children may desire to express may be illus-

trated by fine examples, well worth while for the satisfaction they give by their own appeal as well as for their help in illustrating a technical point. Whenever children have problems in illustrative drawing or in design, they should be provided with good examples from which to derive suggestion and help in method.

In addition to the direct use of pictures and sculpture in connection with situations whose meaning or significance they interpret or intensify, some pictures in each year may also be enjoyed wholly for the satisfaction which their contemplation yields, just as many selections in literature may be enjoyed purely for recreation.

Sources of Pictures. — A live interest may readily be developed in the illustrative drawings, color prints, cartoons, and even the advertising pictures of current magazines, books, and posters. Children should come to know the producers of the most attractive magazine cover pages, magazine story illustrations, posters, and cartoons, and they should appreciate their respective characteristics, interests, and methods. By a little stimulation and help from teachers, children will soon become much interested in these. Advertising matter as found in street cars and on bill boards is also a fertile field for suggestion in design. There is much need for creating public sentiment which will demand that whatever is ugly and uninviting in advertising shall disappear by defeating its own purpose.

Numerous producers of pictures for school use now offer excellent prints of the masterpieces in painting

and sculpture. When such fine pictures may be secured at a few cents each, any school may have a reasonably large collection. Some publishers are now issuing pictures accompanied by well-prepared material relating to the painter, the respective picture, other pictures by the same painter, and other supplementary interests in literature, history, or music.

Material for developing interest and for cultivating discrimination and appreciation in fine art is all about in contemporary life, and the best afforded by the past is also readily available at very small cost.

Principles for the Selection and Organization of Fine Arts. — 1. Fine art includes the use of harmonies of line, tone, and color in beautifying the materials used by man, and in expressing his finest thoughts and feelings by painting, modeling, and sculpture. The process of expressing thoughts and feelings of beauty in form and color is design.

2. The purposes in the study of design in the elementary school are:

a. To develop standards of good taste and to cultivate a love for that which is beautiful in clothing, buildings, furnishings, utensils, and all other material products.

b. To become familiar with choice productions of good artists, and to appreciate the beauty of their interpretations.

3. Drawing and coloring are tools used in designing and in representing graphically one's ideas and con-

ceptions of facts or relationships. They should be developed as a tool for making representations and plans or working drawings, and in expressing the elements of design.

4. Since a most fundamental standard in determining the excellence of a design is its appropriateness to the purpose it is intended to serve, design should be studied in direct relationship to the products which it strives to beautify — textile and costume design as parts of projects in textile and clothing studies, furniture design as connected with the making and selection of furniture, and so on.

5. When the needs in the use of principles of design or of drawing reveal inadequate skill in their application, such definite skill as is appropriate for children of the given age should be developed through a sufficient amount and variety of drill.

6. Participation in design, or creative production to some extent, is necessary to develop the fullest measure of appreciation. Constructive work in designing in the elementary school is primarily to aid in cultivating appreciation and not to develop much technical skill.

7. No projects in design should be required in the elementary school which are so difficult that children cannot get results which are reasonably satisfactory to them in quality without much repetition in effort.

8. The emphasis throughout the work in design in the elementary school should be with reference to

selection and use of products rather than to production as a process.

9. A constant use of excellent examples of design should be made, directly illustrating each particular form of applied design as its problems are taken up. These illustrations should represent the finest products of both the present and the past.

10. Fine examples of painting and sculpture should be included in every grade of the school in connection with the life interests and ideals, present and historic, which these express. Every such art product should be presented in relationship to the setting which gives it interpretation and meaning, so that the harmony of its purpose and its form may be at once appreciated.

CHAPTER XV

MUSIC

Purposes Served by Music. — Music is the expression of qualities of thought and feeling by means of harmonies of sound or tone. Expressing feelings of joy or sorrow, of hope or disappointment, of aspiration or solace, in music gives a satisfaction universally appreciated. Primarily the appeal of music is to feeling. It is used in expressing feelings too deep or too full for words. We sing or whistle when alone in expressing the sheer joy of being alive. At our work the mere overflow of the feeling of well-being results in music. We delight in singing together or listening to music as an expression of social friendship or group feeling on all occasions in life which bring us together. Combined with dancing, plays, and games, music offers one of the most satisfying forms of enjoyment of concerted rhythmic action and feeling. Connected with some purpose for unified action it reinforces thought with the added stimulation and inspiration of aroused emotions, as is seen in patriotic, moral, and religious movements. It helps to express and intensify our enjoyment in achievement on festal occasions and in celebrations.

In everyday life it is the purpose of music to help

us to express in sound our feelings of joy or sorrow with a satisfaction not found in other forms of expression. This satisfaction is gotten by our singing or playing, or by listening to music produced by others which interprets our own feeling. All normal persons have this feeling of satisfaction in music. There is much difference, however, in the degree in which it is possessed, and there is much difference in capacity for its expression. Very much may be done to cultivate and refine the enjoyment taken in music. As in all other art forms, the special ability to compose music is limited to a small number, and the ability to interpret its more difficult forms of expression either by singing or playing is also relatively limited. But nearly all are capable of some expression and enjoyment in singing, and all are capable of much enjoyment through listening. Music may serve as one of the most satisfying and wholesome means of recreation for those who develop an appreciation for it. As the elementary school deals with the common problems of all, the purpose of the study of music in the elementary school is to do all that can reasonably be done to acquaint children with the possibilities of enjoyment in music and to lead them to love that which is of fine and ennobling quality. Through the enkindling influence of feeling stimulated by the appeals of its refining and lofty idealism, music may not only be a source of much satisfaction and pleasure but a strong force for the direction of thought and action as well.

The Thought and Feeling Content of Music. — Since music is a form of expression there is necessarily something which it expresses. It is very helpful, in leading one to a richer appreciation, to acquaint him with the various kinds of thoughts and feelings which are expressed in music. As in literature, so in music, until one learns of the great race inheritance resulting from the work of the master composers in expressing thought and feeling one does not realize the possibilities for enjoying music to its full. The child should therefore be led to experience the joy of every type of music whose beauty and appeal he can appreciate and to become acquainted with the sources of more of the same kinds which he may enjoy as opportunity offers.

By a very homely classification we may say that there are three kinds of music — that for the feet, that for the heart, and that for the head. By music for the feet is meant that which expresses feelings in such a way that it makes us want to act in harmony with its rhythm — it is the music used in dancing, games, plays, and marches. Much of such music may also have a significant thought content — it may be an expression in tone poetry of incidents, occasions, activities, or ideals of peoples. Much of the folk music, national music, patriotic music, and seasonal music is of this kind. Many ballads also have this quality. By music of the heart is meant that which appeals to the spirit of romance, to sentiment, to feelings of love, affection, and personal relationships. Many

ballads are of this form. "Annie Laurie," "Drink to Me Only with Thine Eyes," "Tenting To-night," the "Serenades," and many lullabies are suggestions of this form. By music of the head, intellectual music, is meant that which stimulates reflection — which tends to make us think usually of the meanings and purposes and values of life activities. Many religious songs are of this kind. Some of the grand operas, parts of various symphonies, and many pieces of instrumental music, sometimes spoken of as the heavier types, tend to stimulate in us a reflective mood. "Lead, Kindly Light," "Parsifal," "Peer Gynt," "The Pilgrims' Chorus" are suggestions of music which stimulates thinking. Such music makes little appeal to bodily movement — its rhythm is very different.

Illustrations may be found rather clearly typical of each of these three forms. By this classification one readily sees differences in rhythm and other technical elements. Each of these three forms has its special means of expression appropriate to its purpose.

Another classification which is helpful is the division of songs into folk songs, patriotic songs, ballads, art songs, seasonal songs, hymns and other religious songs, and songs for festivals, holidays, and special celebrations or occasions. In all of these the adaptation of the purpose intended may be illustrated, and by this means a greater interest in the method of the composer developed, and a larger satisfaction in his success appreciated. In folk music attention should be drawn

to the degree in which different peoples express their fundamental national characteristics of temperament. In the Scotch folk song we have the vivacity, the lilt, the weirdness, and the very personality and history of the Scotch people; the Irish folk songs are themselves fine expressions of the wit, humor, and pathos of the Irish; the Italian folk music expresses the joyful, light, smooth-flowing life of the Italians; and the folk music of Norway and Sweden shows the same serious, rugged, and rather sad qualities found in the life and literature of the Scandinavian peoples. Calling attention to these qualities of folk music will lead children to see that peoples tend to express their character in their songs. It will show that the conditions of environment, the temperament, the life ideals, and the moods of peoples are all reflected in their music. This will help to impress the fact that music is a form of expression of thought and feeling. It will help one to look into a musical selection for content and for the purpose and mood which its composer expresses.

The content of music in relationship to means of expressing thought and feeling may also profitably include considerations of musical instruments. The development of orchestras and bands and of the various instruments may be made of much interest and value in increasing an appreciation of the meaning of musical expression. This study would include some investigation of each of the three divisions of instru-

ments — the string section, the wind section, and the percussion section — with the chief examples of each, the characteristics of its qualities, the forms of expression for which its use is best adapted, and its place with other instruments in producing harmonious combinations of tones.

Studies in all of these matters of content may be made the sources of many rich experiences in music by the use of the phonograph. In illustrating any point of musical content selections may be made of music of excellent quality.

Still another element of content which is helpful in developing an appreciation of the kinds and range of music in relationship to the thought and feeling expressed is that of the various musical forms. By the use of the terms and by the examples illustrating them from time to time children should come to have a usable knowledge of the terms waltz, anthem, aria, barcarolle, prelude, cantata, concerto, fugue, mass, mazurka, minuet, march, lullaby, polonaise, serenade, sonata, symphony, oratorio, pastorale, polka, opera, nocturne, etude, allegro, and tone picture. Acquaintance with these forms should be made through the study of the social life of the peoples among whom these forms are characteristic. Interest and appreciation may be increased by good illustrations, using the phonograph.

In all studies of the content in music, attention may well be given to the appropriateness of the form in

expressing thought and feeling. By comparing the forms in expressing attitudes as different as "Comin' thro' the Rye," "Sweet and Low," "The Battle Hymn of the Republic," and "Lead, Kindly Light," it is readily appreciated how the composer makes the musical interpretation harmoniously intensify the meaning and purpose of the words sung. The appropriateness also of different qualities of voice — soprano, contralto, tenor, baritone, and bass — to express different meanings and feelings may be made apparent by calling attention to this and illustrating it by suitable selections upon the phonograph. Records which give almost perfect reproductions of the finest voices are now available. In instrumental composition, beginning with descriptive music and simple tone pictures, children soon come to appreciate the meanings of various elements of time, rhythm, phrasing, volume, and quality and to experience the mood which is the intent of the composer. The appropriateness of the various instruments and combinations of instruments to the expression of different forms of thought and feeling may also be brought out in the study of musical instruments. What kinds of thoughts and moods are best expressed by the violin? By the cello? By the banjo? By the drums? By a band rather than an orchestra? — these are questions suggestive of many which may be used in further developing an appreciation of the meaning of musical expression. By an understanding of this harmony of meaning

and form in music, developed through the use of a multitude of illustrative examples, much may be accomplished in cultivating a permanent interest in music and an enjoyment in listening to it which will make it a lifelong source of most wholesome recreation. Listening to music must be creative listening to give the greatest pleasure — the imagination of the listener must responsively enter into the thought and feeling expressed as the musical form suggests it. We get from music what we bring to it. The more we bring as understanding and as experience in the appreciation of harmony between life motives and moods in music, the more it yields to us in enriching our experiences. The appreciation of many forms of good music is a gradual growth. The more one is thrown into the atmosphere of it and led to appreciate its meaning in terms of its expression of thought and feeling, the more one grows to love it.

Musical Composition by Children. — Very early children will express their feeling in melody if encouraged to do so. By such encouragement much may be done to intensify and develop their interest in music and their understanding of its forms of expression. In the various programs, dramatizations, and pageants given in the several school grades and in the general social life of the school and community there are numerous opportunities for original songs and other musical compositions. Few children will show much capacity for this, but nearly all will show some

desire for it and it will help to develop both a larger interest and a better understanding. It will very much help to create an interest in the technical elements as it will at once require the use of the simplest forms involved in writing music. For those children who do possess much ability it will give opportunity for its discovery and direction.

The Sequence in Music. — As music is an expression of thought and feeling, the sequence of kinds of music which give the greatest pleasure is that which is in harmony with the general growth of interests in children. There is much similarity between the thought and feeling content in music and that of literature as interests develop and enlarge. The songs for young children are those which express childlike interests in the blithesome, free, buoyant, highly-colored spirit of childhood. As experience and interests grow, and as the background of understanding enlarges, the appreciation of musical expressions of these wider interests develops also. There is much music of such universal interest that persons of all ages enjoy it. But all do not enjoy the same elements of such selections equally. Much which is appreciated especially by adults for its expression of the deeper meanings of life which they have felt in personal experience may be enjoyed by children wholly for the rhythm or for the rhythm and the melody. The sequence of folk music may be, in part, determined by projects which give an acquaintance with particular peoples. As

the life activities and environing influences of various peoples are studied in history, geography, and literature their respective folk music may also well be studied as a further means of understanding them and of enjoying the music in which they find satisfaction and pleasure. Facts about musical instruments and musical customs of peoples studied will be of interest in this connection. In the upper grades there is almost no limit to selections of good music which may be used. Much may be done to advance standards of appreciation, and care should be used in giving children an opportunity to hear a wide range of selections and to aid them in every way to enjoy those which are finest.

In singing, selections should be made which do not force tones, and care should be taken to help to cultivate in children an appreciation of singing lightly, softly, and sweetly. The harmony of thought and feeling content and the quality of voice most beautifully expressing it may early be appreciated by children and help them to avoid loud, heavy, and harsh tones in singing. This motive may serve as a stimulus to voice improvement through the school life.

In the technique of music, the sequence is, in many respects, much like that in learning to read and write. The first problem is to give the children a large fund of musical experience and to awaken in them a desire to read and write music for themselves as aids to enjoyment and expression. Songs may be taught wholly by rote in the first year and very largely in the second

and third years. By the second year, however, many helps from learning to read the simple elements of meaning in written music may be used in learning new selections. Many details of technique in reading may be acquired in a manner almost wholly incidental. In the desire to write simple melodies, the necessary technical elements may be easily given which will also aid children in learning to read music. Through the continued reference to the written music as a help in the singing, an appreciation of the meaning of the musical notation is fully developed by the end of the third grade. In the fourth grade and the grades following, definitely learning to read musical notation may be taken up as a means of enjoying new songs.

The necessity for reading with rapidity and exactness will now be seen clearly enough to create the feeling of need for practice upon many points, and projects in definite drill work along these lines will be required. No attempt will here be given to indicate a sequence of steps. Many sequences are possible and many are good. Teachers will all cover about the same general technical field and each will try to meet the needs of pupils as they arise with the appropriate next steps at any given time. By keeping strongly in the pupil's experience the interest and appreciation of thought and feeling to be expressed, and by remembering the fact that the technique is a tool or means of correct expression, the pupil will even more readily master it because of this sense of its immediate worth.

Projects in Music. — For recreation alone, singing or listening to music is a form of wholesome enjoyment which may be engaged in daily with profit. It is often possible to sing a song or listen to a selection played on the piano or by the phonograph in an otherwise unused interval. The singing of rounds, carols, ballads, nature songs, songs of greeting and farewell, marching songs, and other songs spontaneously enjoyed should be encouraged and the children furnished with an abundant repertory. Program music is required at almost all kinds of entertainments, plays, celebrations, festal occasions, and class or school exercises. Concerts are often possible as a most pleasurable form of entertainment, each of several classes contributing something of its own regular work for the enjoyment of others. Wherever possible children who play instruments should be helped to form orchestras and to play for the enjoyment of others. Individual singing and playing in programs or for the illustration of principles or composers studied should be encouraged. Pupils should feel as free to sing for a class as to read to it.

The projects in history and in practical arts which may lead very appropriately to the use of music are quite numerous. As has been mentioned, whenever the folk interests, activities, and customs of peoples are studied, the folk music of those peoples may well be studied. The musical instruments, musical forms, and the place of music in the lives of these peoples

may be considered also with interest and contribute to a growing understanding of musical expression. Among the projects in the history of the grades which may lead to projects in music are these: The music and musical instruments of primitive peoples as studied in the second grade; of the Indians, the Hebrews, and the Egyptians in the third grade; and of the Greeks and Romans in the fourth grade; the music in the plays, festivals, and home life of the Greeks; the minnesingers, troubadors, and other minstrels of the middle ages in connection with the history of the fifth and sixth grades; the first operas and other musical forms developed in this period; the chorale and chant and the place of music resulting from the Reformation; the beginnings and development of orchestras and bands; and music in the life of the American colonists and in the later history of America. In connection with practical arts are the folk songs expressing the play spirit of occupational activities such as the songs of the blacksmith, shoemaker, carpenter, farmer, sailor, shepherd, postman, scissors grinder, spinner, weaver, and others. The dances, games, plays, and dramatization of physical education also require the use of much folk music which aids in the interpretation of the musical interests and experiences of historical and contemporary peoples.

From the second grade upward the children may well become acquainted with the names and stories of the lives of several of the great composers each year.

Composers worth knowing may be selected for each grade, some of whose compositions are appropriate to it. In the lower grades the children may learn something of Robert Schumann after they have enjoyed "When Little Children Go to Sleep." Brahms may be introduced through "The Huntsman," or "The Guardian Angel," or "The Little Dustman," or "Lady Bird." Haydn's "A Child's Prayer," Carl Reinecke's "Bunny Rabbit," or "The Naughty Brooklet," and Mozart's "Father, We Thank Thee," or "Brightest and Best" may be used in acquainting children with these respective composers and the story of their lives in simple form. For the middle and upper grades the following composers and their respective songs are suggestive of the studies in musical biography and the types of selections by which children may be led to take an interest in them: Von Weber's "Softly Now the Light of Day"; Franz Abt's "Farewell to the Birds," "Good Night," and "The Swan and the Children"; Mendelssohn's "Farewell to the Forest," "Hark, the Herald Angels Sing," "Greeting," and "Over Hill over Dale"; Schubert's "The Wild Rosebud," "Hark, Hark, the Lark," and "The Night"; Beethoven's "To-day" and "To-morrow"; Schumann's "The Evening Star," and the "Return of Spring"; Verdi's "The Shower" from Il Trovatore, with the story of Il Trovatore; and Wagner's "Pilgrims' Chorus," and "Flag of the Free," and stories from the Wagner operas. Where there is a phonograph each of the composer's works may be further illustrated by selections appro-

priate to the grade. The children will come to feel a kindly interest in these master composers, and will respond to other works written by them with an attitude of familiarity and interest kindred to that in meeting an old friend. Contemporary composers should become known by children of upper grades through current musical records for the phonograph and music for pianos, violins, orchestras, bands, and for singers. Contemporary singers and players of especial prominence should become known almost incidentally through acquaintance with their singing and playing as heard in concerts or on the phonograph. Local musical events may be fully used for their worth in cultivating interest and taste.

By this richness of musical experience and knowledge, by having spent many hours of genuine satisfaction and enjoyment in music, and by having such an acquaintance with the sources and possibilities of music, it is hoped that the children will have developed intelligent standards of judgment about the qualities of music and an abiding love of that which is best. The primary purpose of elementary school experience in music is so to develop and cultivate this enjoyment of good music that it will become and continue to be among the most pleasurable and refining forms of recreational interest throughout life.

Principles for the Selection and Organization of Music. — 1. Music should be taught primarily for the enjoyment which it affords. Selections should

be made which yield satisfactions in response to immediate interests and which also lead to the development of higher levels of interest and taste. All work should be directed to the acquiring of a knowledge of what is best and most beautiful in music, to cultivating a love for it, and to developing the best means for enjoying it.

2. A rich content of songs taught by rote and of instrumental music of excellent quality adapted to the interests of young children should precede the teaching of the reading and writing of music.

3. The teaching of various forms in music as to purpose, construction, and effect, of the forms and usage of musical instruments, of the forms of musical organizations, and of the forms and usage of music in the expression of the folk interests of historic and contemporary peoples should be included in the work in music to aid in its interpretation and enjoyment. In presenting programs of various kinds, children should be led to make selections from the masters in music appropriate to the occasions.

4. The work in practical arts, history, literature, and geography provides settings and avenues of approach to much music in the elementary school. Such interests aid in more fully appreciating the meaning and beauty of related musical selections. Children should become familiar with the forms of music which express the national characteristics of particular peoples and with the greatest masters in music through their most appealing productions.

5. Extensive use should be made of the phonograph, and of all opportunities to hear good music provided in the community. Children should be taught how to listen participatingly or creatively to music that they may derive the largest possible satisfaction from it.

6. When the needs for a study of musical notation are sufficiently strong to lead the children to appreciate the worth of such study as a means in their larger use and enjoyment of music, the teaching of notation should be introduced and continued until desirable standards in reading are attained for each grade. Practice as a means should always be consciously related in the minds of the children to efficiency and enjoyment as an end.

7. Musical composition by children should be encouraged and its influence in developing motive for the technique of musical expression utilized. All programs, entertainments, and festal occasions should be used as fully as possible in stimulating the production of original compositions appropriate to the respective purposes.

8. Children should be encouraged to learn to play musical instruments and to form school orchestras and bands.

CHAPTER XVI

PHYSICAL EDUCATION AND HYGIENE

Purpose of Health Education. — It is the purpose of health education in the schools to give children the knowledge and develop in them the habits which will most effectively help them to keep well. The knowledge must be that which is so related to the needs of everyday life that it will always be usable, and the habits must be so firmly established that they will continue effective throughout life. In addition to keeping the body in good physical health there is also the very important purpose in providing the wholesome enjoyment afforded by sports, plays, and games as recreational activities. Quite apart from health as an aim, such activities are worth while for the pleasure and satisfaction they give in themselves. Physical education therefore includes both education in health and education in enjoyment. The two aims, however, are vitally related.

Three elements or kinds of content enter into physical education : Health knowledge by which we are intelligent about what is required to keep well ; personal habits in caring for the body ; and play attitudes and habits to provide enjoyment and health-

ful bodily tone through forms of pleasurable bodily activities.

Health Knowledge. — Health knowledge consists in a very large part of the information required to use foods, clothing, and shelter in the most healthful way. For the remaining part it has to do chiefly with such points of structure and use of the different parts of the body as will enable us to take proper care of them.

That kind of information relating to the proper use of foods and clothing, to the living conditions of houses and rooms, and to the sanitation of buildings, grounds, streets and the community may be secured most naturally and be made most effective for use in direct relationship to projects in food, clothing, and home life. One of the most important purposes for such projects is the help we may get from them in maintaining health. It is estimated that there are six million school children in the United States suffering from malnutrition as shown by their falling decidedly below standard in weight for their age and height. Many causes are responsible for this — overcrowding, unnatural excitement, lack of proper recreational facilities, disease, and poverty — but much of the trouble may be traced to parents' lack of knowledge of what food should be purchased and how it should be prepared. Most of the information constituting the content of projects in food, clothing, shelter, and related questions of sanitation, found under the projects in practical

arts, is direct health information. It gives the facts and many of the reasons for selecting, preparing, and using these utilities so that health and comfort may result. What our bodies need as food in variety and amount, how various foods are best prepared for eating, when we should eat, and what we should observe in keeping food pure and clean; what kinds of clothing the body requires for protection in different seasons and under different conditions, and how clothing may be kept clean and wholesome; how rooms may be properly heated, lighted, and ventilated; how the house, grounds, streets, and neighborhood may be made and kept sanitary and free from disease producing germs; and how to avoid the dangers to life and limb from trolley cars, automobiles, trains, and defects of streets and roads — these are among the most important kinds of information people need in order to keep well.

The knowledge of the structure, function, and care of different parts of the body includes such information about these parts as the individual needs to keep well. Not very much information of the structure and physiology of these parts is required. That only is needed which in ordinary life situations enables us to observe intelligent care in protecting and using these parts. The best authorities estimate that three out of every four children in this country — perhaps fifteen million — are suffering from some defect which might be prevented or corrected. Apart from those

suffering from malnutrition, a very considerable number of these defects are due to lack of care of the teeth, throat, eyes, ears, skin, and feet. Simple facts about the structure of these parts which make clear the needs for care and the results of neglect furnish a basis for reinforcing habits which should be developed and for measures of prevention and cure not provided by habit. Children should also learn what to do in cases of cuts, bruises, burns, and other accidents of common occurrence, and how to administer first aid to persons who have been injured or who have suddenly fallen ill. They should know about poisons and antidotes for them. How to use the district or school nurse to secure advice and help, and when to call a doctor are also questions about which they should be informed.

Health Habits. — Many of the acts in caring for the body are of such regularity and so continuously needed that habits are the only safe and economic method for securing their most effective performance. Bathing; cleaning the finger nails; brushing the teeth; regularity in time of eating, going to bed, and rising; sleeping with open windows; taking adequate daily exercise; observing regular hours of work; sitting, standing, and walking erectly and with good carriage; using the eyes for reading or finer work only in good light; keeping the house temperature as it should be; keeping the feet dry and comfortable; avoiding direct drafts; sneezing, coughing, or expectorating in a handkerchief, and always consulting a doctor or nurse when symptoms

of disease or defects appear, are some of the habits which should be developed in children as early in life as possible and continued through life. As projects in practical activities develop in the grades in which related questions are investigated, as in foods, clothing, or sanitation, information will be acquired which helps to make the worth and importance of many of these habits more appreciable. When situations arise providing a motive, questions of structure and use may be taken up to make more intelligible the value of various desirable habits they should have formed by this time.

Physical Recreation, Interests, and Habits. — While there should be established the habit of daily physical exercise, there is much more than mere exercise in physical recreation of the largest value. The needs for recreation are mental as well as physical. To meet the most fundamental need for physical recreation the imagination and the emotions must enter into the activities. Recreational activities should be full of enjoyment. Feelings of buoyancy, exultation, and mental glow have wholesome effects upon the nervous system, the circulation, and other vital processes. Swimming, skating, coasting, riding, and other sports, games, and plays, furnish both the needed bodily exercise and also the mental elements of joy and satisfaction in the activities which make them appreciated as worth while for their own sake. In addition to the usual sports, plays, and games in which children enter

with zest and pleasure, there are many suggestions from the activities of historic peoples studied, for sports and games appealing to the imagination and the love of out-of-door life. Children will not need much of formal gymnastics if they are living into the hunting, scouting, and games of the primitive and pastoral peoples, the Olympiads of the Greeks, the tournaments of the knights, the contests of Robin Hood's men, and the folk games, dances, and contests of other peoples of whom they read in history and literature. These provide enthusiastic physical activity fully motivated and thoroughly enjoyed.

Many of the earlier childlike games and plays of children are outgrown as they pass into adolescence and maturity. To take their place there are needed the cultivation of interests in games and sports which are so rich in the enjoyment which they give to young people and adults that they will keep the play impulse alive and active through life. Sports, games, and plays having the elements of skill and competition are of great interest in adolescence. During this period these interests should be intensified and so much exercised and satisfied that habits of recreation will be formed which will endure. Recreation may and should be, in part, a matter of habit. One should be so in the habit of taking some adequate kind of daily physical recreation that one would feel as great a loss in missing it as one would in missing dinner. The number of men who die in middle life, between thirty-five and

sixty, from disease which could be prevented by right habits of living and exercise is evidence enough of the importance of developing and maintaining such habits. Hardening of the arteries, various forms of heart disease, impaired digestion, and nervous breakdowns are very frequently the results of neglect of proper bodily activity among men and women in sedentary occupations. The same causes often produce the lack of resistance to the germs of influenza, pneumonia, and tuberculosis which so often fatally attack men and women in that period of middle life when they should be most vigorous and strong. Horseback riding, swimming, boating, tennis, golf, walking, and other out-of-door sports, games, and interests are the very best daily means of keeping the heart and lungs healthy and strong in action, the arteries flexible, the digestive organs unimpaired, and the nervous system steady, keen, and responsive. The school can do nothing more valuable in health education than to develop such a joy in the out-of-doors and its various activities that an attitude of mind and a habit of invariable regularity will make some kind of out-of-door play as much a part of each day's program as is breakfast or dinner. For those whose occupations are sedentary, gardening, poultry-raising, or any other form of out-of-door avocation may be preferred to games or sports. For those whose occupations are out-of-door bodily activities, the proper recreational balance may be of the more sedentary forms of play. But it should be

emphasized that for all, daily bodily exercise in the open air is a health essential. The required daily recreational activities should be genuine play or be carried on with all of the enthusiasm and spirit of play activities whose chief reward is the joy of the activities themselves.

To create and develop an abiding and impelling interest in desirable forms of physical play in the most healthful surroundings, a wide variety of particular forms of sport and games should be entered upon in school with all conditions possible favorable to their fullest enjoyment. Formal exercise as such may be quite completely eliminated. The use of dumb-bells, Indian clubs, and wands may enter into marches, plays, dramatization, or contests, but, as a mere means of exercising, they should be regarded as a last resort, both in school and out, justified only by conditions making nothing better possible. Motive should be just as evident in the activities of physical education as in history or literature. And of physical recreation it may almost as truly be said as of literature, that "to miss the joy is to miss all."

The relationship between good health and long life, good health and working efficiency, both physical and mental, and good health and happiness should be made clearly appreciable to children. The great losses of every kind caused by preventable sickness should be made evident by adequate particular illustrations. People should come to feel that preventable sickness

is a sin as well as a misfortune — that one is morally responsible who causes the losses, inconveniences, and sufferings to himself and others by sickness or poor health which he could avoid. Physical recreation is not wasteful when not excessive. It is essentially an element in determining one's attitudes and effectiveness in meeting all of the obligations of citizenship. It yields buoyancy of spirit for achievement. It is one form of spare-time activity without which neither health nor happiness can long endure.

Projects in Recreation and Hygiene

Grade I. *Recreation.* — The desire for the expression of physical activity and imagination may find satisfaction in many occupational and play activities, dramatic and singing games, and marching and dancing rhythms. Running, jumping, hopping, flying kites, sailing boats, coasting, swinging, climbing, skipping, taking walks, and gardening are suggestive of the variety of out-of-door activities which are enjoyed. Practical arts work, stories, and songs suggest many dramatic plays and games appealing to imagination and expressing themselves in vigorous and healthful physical activities. The "Elves and the Shoemaker," "The Blacksmith," "The Brownies," "The Pied Piper," "Follow the Needle," "Fox and Geese," "Round and Round the Village," and "Cat and Mouse" are typical of many games and plays into which children enter with enthusiasm in school and which they

enjoy enough to carry on by themselves when out of school — one of the best tests of the effectiveness of any school activity whose purpose is recreational.

Hygiene. — The practical arts projects include many questions about the cleanliness, care, and use of foods and clothing, and of the home and surroundings which are very important to health. What the mother does to keep the children clean and their clothing fresh and clean, what the children can do for themselves in washing their hands and faces, caring for their teeth, cleaning their finger nails, keeping their clothes clean, cleaning their feet to keep dust and dirt out of the house; why mother opens the windows to air the rooms and opens the windows in sleeping rooms at night; why we should chew our food well and eat slowly; why we should wash before eating; why we should have individual drinking cups or use a fountain for drinking; why we should not eat fruit or other food that is beginning to decay; why flies should be kept away from food; why we should keep our feet dry and warm, and keep our coats well buttoned in cold weather, and why we should sit and stand well, are all questions which may be talked over to give right ideas about health needs and to begin the formation of right habits. As has been indicated, the natural settings for many of these questions and various others which these will suggest are the projects in food, clothing, and shelter which include them as factors in determining many points relative to their selection, care, and use. In

these relationships they are not mere formal questions, but are questions whose answers are needed to make intelligible activities that are being carried on, and their application or use is immediate.

Grade II. *Recreation.* — Interest continues strong in occupational and play activities, dramatic and singing games, rhythms, and dances, and the multitude of out-of-door sports and pastimes of childhood. Simpler folk dances may be introduced. The richness of content required to satisfy the activity of imagination makes it desirable to learn many new plays, games, and rhythms during the year. The occupational activities of the community and of other peoples studied furnish many opportunities for imitative or dramatic expression. The hunting of primitive peoples or of others read about in stories, the imitating of animals, the impersonating of automobiles, engines, horses, soldiers, or other moving persons or things, furnish play for the imagination and exercise for the body. Games involving more of the element of skill than those of earlier years are now beginning to be enjoyed. Gardening, excursions, and all forms of healthful out-of-door interest should be encouraged and attention drawn to the great variety of form, color, and activity in nature, both animate and inanimate.

Hygiene. — The projects in the practical arts are full of questions directly bearing upon health. The selection, care, and use of foods, clothing, house furnishings, and utensils are all problems having a health

aspect. Such problems include the health questions as outlined in practical arts, and they should be taken up as parts of these problems in their natural setting. The stories of the life of primitive man and our first white American settlers raise the questions of comparison of conditions then and now, some of which have to do with the relative advantages and disadvantages of both periods for keeping well. The condition of children as they come to school, class room and out-of-door situations, and lunch room or party occasions offers many opportunities for initiating and developing right habits of personal cleanliness, care of the body, eating, dressing, avoiding accidents, and sitting, standing, and walking with good posture and carriage. Children should begin to take an interest in their height and weight by the end of the second year. There is an average weight for a given age and height, and if a child falls much below this, something is the matter. Children can get this thought with reference to their own age. If the school has no equipment, a tape measure may be tacked to the wall for getting height and some neighboring merchant may be found who is willing to lend the use of his scales. Weighing contests may be held from time to time and the results made use of to help some individual children immediately while all will tend to form the weighing habit and will learn to know its use.

Grade III. *Recreation.* — Interests in active out-of-door and indoor plays, games, dramatizations,

marching, dancing, and sports continue. The stories of history and literature offer many settings for hunting, scouting, warfare, festal occasions, and other imitative or dramatic activities. Games of skill are increasingly interesting. Ability to engage in a wider range of out-of-door sports is developing. Skating, coasting, snow balling, swimming, hikes, and other such activities make a stronger appeal than earlier and should be encouraged both in school and out but with such help from adults as will enable children to get the most enjoyment out of them and as will avoid the dangers into which they sometimes lead if unsupervised.

Hygiene. — Practical arts activities continue to include many questions of hygienic living as affected by the care and use of foods, clothing, and the home and its surroundings. History also includes the suggestions of many health questions. The necessity for strength and endurance of the Indian in securing his food and other supplies, his open air life, his limited diet and the discomforts from inadequate clothing and shelter, and the problems of the early white colonists in securing supplies and comforts are questions which occasion many comparisons of early and present conditions and the relative advantages to health. These projects in practical arts and history raise many questions of hygiene which may be discussed and class room and outside situations also furnish occasion for other discussion and reinforce-

ment of right habits of living. Community sanitation may receive some consideration in connection with the study of the need for the board of health and what it does. All health knowledge earlier developed should be recalled and strengthened in new situations calling for its use, and all food habits begun earlier should be kept alive and made more intensive by continued practice.

Grade IV. *Recreation.* — The history and literature of this year considering Greek and Roman life are rich in suggestion for many recreational activities. The need for poise, control, and endurance required for success in the play activities of the Greeks — running, discus throwing, archery, and other games and contests requiring strength and skill — emphasizes attention to freedom in dress, plenty of food and sleep, and the best of care of the body in every particular. A Greek Olympiad will appeal strongly to the children and lead them to acquaint themselves with a number of play activities of excellent value. The question of sportsmanlike conduct — fairness in competition, honesty above all other considerations, respectful and courteous treatment of competitors — may well receive emphasis. The study of other peoples, both ancient and contemporary, as they are found in history and geography brings many games and sports to the attention of children and creates in them a desire to try them out and enjoy them. Dramatic games and pantomimes, various folk and symbolic dances, the more common

dancing steps, as waltz, polka, schottische, and two-step, and numerous games of skill indicate the variety of recreational expressions which include both the necessary physical and mental elements. The interest in gardening, exploring, participating in all of the seasonal sports, and in contact with all of the out-of-door elements of biological and physical nature should be kept growing both more extended and intense.

Hygiene. — Projects in food include many questions of food values. The first definite ideas of a balanced meal are gained in the serving of luncheons or planning other meals. The kinds of food and general proportions of each kind needed by the body to keep it strong and well are questions of very great hygienic importance. The proper preparation of foods through cooking leads to questions of digestion. The effect upon digestion of starch in rice, macaroni, cream of wheat, and other starchy foods not sufficiently cooked can be made much more clear and meaningful if the general nature of the digestive processes is understood. Reasons for thorough mastication, for regularity in eating, and for purity and cleanliness of foods may be emphasized as occasion offers. Problems in clothing also offer opportunity for questions of selection and use of various kinds of textiles and garments with reference to health. The costuming of the Greeks studied in this year suggests consideration of the question of the health value of loose clothing. The study of the Greeks may also lead to questions of proper eat-

ing, sleeping, posture, carriage, and physical recreation as aids in keeping the body strong, agile, and effective for every form of work or play. Habits of personal cleanliness and of bodily care require attention that they may become increasingly effective and automatic from year to year. Weighing the body regularly and making other tests of health, as of hand grip and chest expansion, by comparing results with standards for age and height of children of the same age, help to make young people conscious of the importance of health standards. If they fall below normal standards they should learn why, if possible, and be taught to do whatever is necessary to bring them up to attainable standards. The interest now developing in competitive games, sports, and feats of strength and skill gives readiness of mental attitude for any information or cultivation of habits in increasing physical efficiency.

Grade V. *Recreation.* — All of the general forms of present-day sports, games, and both out-of-door and indoor physical recreation activities may be encouraged. Contests in games and in lighter forms of field and track athletics are now beginning to make their appeal, and may be encouraged if cautions against overtaxing endurance and strength are observed. The history of the middle ages and of early American life in this grade may lead to interests in the recreational activities of those periods. The contests of Robin Hood's men as a part of a dramatization of Robin Hood are attractive. The revival of archery as a form of

recreation may be stimulated through finding the esteem in which it was held in ancient and medieval life and the learning of the pleasure which it gives as a pastime. Many folk dances and games may be introduced through the studies in history and literature. Wrestling is of interest and may be encouraged, and instruction in various rhythms or steps appeal if entered upon for recreation rather than mere exercise. Gardening, bird studies, flower and plant interests, hikes, camping, fishing, boating, and all other wholesome forms of out-of-door recreational activities should be encouraged and help given in planning for them. Organizations, as clubs, scouts, or associations for carrying on recreational activities outside of school, are helpful in intensifying interests and developing wholesome habits and attitudes.

Hygiene. — Projects in the preparation and use of foods and clothing, and proper lighting, heating, and ventilating of rooms, continue to raise many questions of health as noted in Grade IV. The regulation of one's daily practices in all of these matters, as well as of those in the personal care of the body to make it strong and efficient in plays, games, sports, and work, may be made to tend increasingly toward permanent habits. In connection with each definite question of health, some information may be given about structure and function of bodily parts or organs concerned, which will help to make the direct reason for proper care more clear and intelligible. Such information

may include some general knowledge of digestion, circulation, and respiration, of vision, and of excretion as a function of the skin. Measures necessary to insure cleanliness and freedom from dust and other sources of contamination in the commercial preparation of foods and textiles are problems in the sanitation of factories, shops, streets, and homes. Such interest in one's bodily well-being may be encouraged as will lead children to refer occasionally to standards of weight, height, lung capacity, carriage, strength, vision, hearing, and breathing relative to age, and to be ambitious to take such care of their health that they will not fall below these standards. Graphical records or charts on the basis of monthly measurements may be made a means of taking an intelligent interest in one's physical well-being.

Grade VI. *Recreation.* — The plays, games, and sports begun in early grades may continue, and the competitive element in these make them increasingly desirable. Greater interest in organization and co-operation or teamwork exists than in lower grades. Activities requiring strength, speed, and skill may be entered into with a strong group spirit. All forms of out-of-door activity should tend to be of interest and such help should be given as will result in much satisfaction through games, sports, hikes, nature excursions, camping, gardening, and all other wholesome open-air activities which make an appeal. Through history and literature there will be suggested

many forms of folk games and dances. The contests learned about at fairs, merry-makings, and other festal occasions among other peoples or in the days of our American grandfathers may stimulate the repetition of such contests as parts of pageants or festivals in school or in their informal free play in or out of school. Indoor recreational activities as a substitute for open air recreation when the latter is impossible should also be stimulated. Indoor games and plays, as basket ball, hand ball, bowling, indoor baseball, dodge ball, and indoor track and field contests should provide the elements of imagination, zest, competition, and satisfaction necessary to cultivate permanence of interest. In general, whatever it is desirable that men and women should develop as permanent physical recreation interests and habits should be included as projects for the boys and girls of this grade. Enough vigorous physical movements to provide adequate bodily activity and enough interest and enjoyment in the activity to give a sense of mental glow and enthusiasm which will tend to make it a habit giving lifelong satisfaction are the ends which physical recreation should strive to attain for every pupil.

Hygiene. — In the practical arts work of this year, the pupils lay especial stress upon the economic and hygienic aspects of the selection, use, and care of food, clothing, and other material supplies. In connection with the question of sanitation and wholesome usage of these various supplies, there may be considered more

fully than in lower grades the facts of structure and function of bodily organs which help to explain the reasons for the care of the body relative to food and surroundings. In all points of structure and use, emphasis should be placed upon the kind of care which will help best to keep the respective parts working most naturally and efficiently. Emphasis should be upon the avoidance of the causes of disease and injury, but there should also be included attention to first aid in case of accident or symptoms of illness of any kind. When to call a physician, or go to a dentist, or consult a surgeon is important, and how and when to use the nurse and the hospital are points which children should know. Projects in finding out what nurses, hospitals, and the health department do should help to develop a wholesome attitude toward these forms of service.

Practice in carriage, posture, personal appearance, grace in bodily control and movement, cleanliness of all parts of the body, and care in maintaining oneself a strong, healthy person should become so much a matter of personal pride and self-respect that habits of right living will develop with a high degree of regularity and efficiency in every child. Measurements by standards, periodical tests, and records of growth and efficiency as described in Grades IV and V are devices which will help to hold attention to the problems of personal health and the conditions which contribute to it. Statistical information and observed

instances of losses in length of life, in costs in money and service, in weakened leadership, in civic responsibility, and in the enjoyment and satisfactions of life through disregard of the laws of health should be made the subject of projects which will help to impress the vital importance of keeping well.

Principles for the Selection and Organization of Physical Education. — 1. The content in physical education should include that information and the development of those interests and habits which are required to keep the body in good health and to provide wholesome, satisfying physical recreation.

2. Much of the information required for health relates directly to the proper care and use of foods, clothing, and the household. The hygienic aspects of each of these fields should be included as an integral part of their study in practical arts projects. Such hygienic problems as appear in direct connection with projects in geography, history, or other fields should be considered in relationship to the situations in which they arise.

3. Health habits should be developed as soon as children have capacity for forming them. To reinforce these habits and to make them intelligent, health information should be brought to bear as fast as the ability of the children will permit.

4. All studies of anatomy and physiology in the elementary school should be confined to such elements as will aid in the proper care and protection of health.

5. In projects in community activities and institutional life, information should be developed relative to accident prevention, the services of public health agencies, and when and how to use the services of physicians, nurses, and hospitals.

6. Recreational interests should be developed which will make for lifelong enjoyment of wholesome, out-of-door plays and sports or avocations. Such interests should require sufficient mental activity to produce an attitude or tone of buoyancy and satisfaction so much appreciated that recreation will not suffer neglect.

7. Every possible effort should be made to cultivate recreational interests through the participation in school of the folk plays, games, and other recreational and festal activities of peoples studied in history, literature, geography, and other fields.

CHAPTER XVII

CITIZENSHIP AND THE CURRICULUM

The Meaning of Citizenship in America. — In a democracy, dedicated to the principles of liberty and the brotherhood of man, personal conduct requires more actual personal restraint and self-control than in an autocracy. Unrestrained, undisciplined personal or group conduct is selfish and unsocial. The control in a democracy must be essentially self-directed, it must come from within the individual rather than be imposed from without. This makes clear the necessity that every one should know how fundamentally the members of a community and groups of communities are dependent upon each other. The conduct of one is the concern of all, because all are affected by it. To be a good citizen one must realize that one has an obligation to do everything one can to keep well and help to make conditions for good health in one's community; to be honest and fair in all business dealings; to coöperate helpfully in all good and desirable community enterprises for the well-being and happiness of the people of the community; to help secure desirable laws and regulations for the protection of people and property, and to aid in the enforcement of these laws and regu-

lations; to restrain one's own personal desires when these are in any way in conflict with the well-being of others; to be sensitive to the needs of others and sympathetic in helping to meet these needs; and to feel a responsibility for defending and supporting the rights and privileges of others and oneself against harmful influences, even at the cost of great sacrifice to oneself. But more than merely to know of these duties and privileges, one must practice them — one must have the habit or attitude of actually doing that which it is right to do. One must do all that one can to keep oneself and others well and free from the causes of disease or bodily harm; one must practice honesty and fair dealing; one must show one's love of community and country by serving them in every way one can; and one must have the courage of one's convictions.

At bottom, good citizenship is the result of the practice of intelligent service. It is an application of all of the personal moral virtues to one's conduct in relationship to one's community, state, and nation, and to the peoples of the world. If we look about us to see how many different communities and peoples have helped us by providing the foods we have to eat, the clothing we wear, the materials which make up our homes, and the plays, music, art, and literature which we enjoy, we shall soon find that we are dependent upon the work and good will of all of the peoples of the globe. All of them are helping us in some way. All are, therefore, our neighbors. Our interests and theirs

are common in a great many ways. That they may help us most effectively we must treat them as neighbors and friends. We must deal with them honestly, fairly, and unselfishly. They in turn are dependent upon us for many things. If we did not use what they produce they could not receive in exchange what we produce for them. We are all tied up together through common interests in a common brotherhood.

In a democracy we are individually and collectively responsible for our own conduct. We are free to deal with others very much as we wish and think best, except for such laws as we have established as means of securing honesty and fairness where this has not seemed possible by individuals acting independently. Whenever we make laws it is with the belief that they will help us to deal with each other more fairly and justly. Laws are *agreements which we make with each other* to do certain things in certain ways. When made, we all bind ourselves to help in enforcing them. If it is found that they are unjust, then we may repeal them or change them. But so long as they are not repealed or changed, it is our sacred duty to obey them. It is only by obeying the laws and respecting them as the means for securing equal freedom to all, in doing that which is for the best interests of all, that we can maintain any large degree of social coöperation and security. Since we are free to change any law which is found to be unfair and unjust, there is no danger that any real injustice may be done by laws if we

are thoughtful and intelligent about the making of them. It is both the privilege and the duty of the citizen to take an intelligent and active interest in making and enforcing laws and customs which are for the common good. This responsibility which is upon every citizen makes it necessary that every one should have a clear understanding of the reasons for laws and the ways of making and changing them, and a willingness to help in their enactment and enforcement. Citizenship means personal responsibility for the well-being of all, as well as opportunity for personal freedom in doing whatever is desirable, providing this does not interfere with the equal freedom of any one else. It means restraint as well as liberty. What we do is so closely connected with the well-being of others that our acts must all be thought of in terms of their effects upon others as well as ourselves. "None of us liveth to himself." Any thought or act that is in any way selfish — that serves our personal interests at the cost or inconvenience or discomfort of others — is undemocratic and is opposed to good citizenship. Good citizenship means unselfish, intelligent service in the interest of the home, the community, the state, the nation, and the whole human family.

How Growth in Citizenship Is Secured. — Growth in the qualities of citizenship cannot be secured alone by the setting apart of a particular period or time for the practice of these qualities. Citizenship is not an activity separate from other activities any more than

honesty is a separate activity. It is rather the quality or character of all of our life activities. The measure of our citizenship is the degree in which we are intelligently unselfish and socially mindful in all we do. Is a man a good citizen? We answer by finding how well he cares for his health and helps in making healthful conditions for his community and other communities; how well he cares for the material and social needs of his family, and takes an unselfish interest in trying to secure for other families the same good things he desires for his own; how fairly and honestly he deals in every business transaction; how helpfully he serves the community by working for wholesome conditions for all desirable forms of recreational life and spiritual growth; how fully he participates in the selection of honest, socially-minded men and women for political and civil offices to serve the community, the state, and the nation; how devotedly and intelligently he promotes all measures for the common good of his neighbors, near and remote; and how completely his manners in all of his contacts, social, business, and political, are the evidence of a spirit that is just and fair, but no less sympathetic and humane. The man is a good citizen in the measure with which each of these forms of activity is performed for the well-being of all.

Since citizenship is the quality of all of one's acts, it follows that the development of good citizenship in children and young people lies in teaching them the means of performing each act of daily life in such a

way that it will serve the common good. If each of the hundreds and thousands of daily activities is so performed with honesty, fairness, and a due regard for the well-being of others, then the abstract quality of citizenship will have been realized. Honesty is developed by being honest, fairness by fair dealing, sensitiveness to the needs of the community by serving the community, unselfishness by giving and exerting one's efforts in the interest of others, and political and civic intelligence by participating thoughtfully and honorably in definite political and civic issues. It becomes, then, the problem of the school in teaching citizenship to show the most desirable ways of performing specific acts for the common good, of inspiring ideals and desires to serve the common good by such acts, and to cultivate habits by practice in performing such acts. The problem is, therefore, one of genuinely socializing each of the life activities — of so bringing out the relationship of the activity to the welfare of others that the necessity for considering the interests of others as well as of oneself will be clearly appreciated.

Projects Including Elements of Citizenship. — There is scarcely a project in the practical arts, in geography, in history, in nature study, or in hygiene which does not contain some significant element of citizenship. In finding out how we are supplied with food, clothing, shelter, and other material needs we learn how dependent each is upon the work of others. Both those round about us and those far remote from us as well

who are engaged in farming, industry, transportation, and trade are serving us by their work and we in turn are doing something which serves them. Those also who keep the streets clean, who keep order as policemen, who make up the fire companies, who teach the schools, who have charge of the libraries, who furnish us with music, plays, moving pictures, books, magazines, parks, and other forms of recreation, who help us to recover when we are sick, as doctors and nurses, who serve us as ministers for worship, and who make and enforce laws are all working for our common good. As we come to appreciate this dependence and interdependence of ourselves and others, we cannot fail to realize somewhat of our own responsibility for helping on as much as we can with these activities. We see that if each does not do his part with honesty, fairness, and unselfishness, all suffer because of the dishonesty or unfairness. Just as prominent as are my privileges to share in the good produced by others are my obligations to contribute all I can for others. All of the projects in history help to show how men everywhere have been striving to do things in ways that enable us to be more useful and helpful to each other. Some of these attempts in history have been selfish — they have been for the benefit of a single group or nation or a few groups or nations only. But, in the long run, all such movements have failed, and those only have permanently prospered whose purposes have been to give service as well as to receive it.

In the projects in the chapters preceding, the elements having to do with conduct that mark the good citizen have been emphasized. Here it is necessary only to note these qualities in summary and *to insist that they must be considered in direct relationship to the situations and activities with which they belong in life.* At times the kinds of conduct which are most worthy and desirable should be discussed in detail and the children given every help possible to reach conclusions embracing the highest and finest ideals. But such discussions will be most effective only when raised by definite situations which illustrate their use or application. Casual situations quite apart from school or home projects will also often raise questions of proper conduct. The discussions of these as well as of those arising in school activities should be turned by the teacher in the direction of those principles and ideals of fairness, honesty, and brotherly coöperation basic to democratic citizenship. At bottom, these principles and ideals are few in number. The golden rule covers them all. Genuinely good manners, politeness, kindliness, are in essence the basic qualities of good citizenship. But their meaning in terms of specific daily situations and problems must be appreciated. Only as they are understood and practiced in daily situations do they have practical meaning. With children the general quality is only fully appreciated and developed as an attitude as the outcome of the scores of definite acts which illustrate it.

When specific questions of conduct have been raised, reference may well be made to historic and literary illustrations of similar situations as a means of intensifying the desired attitude.

A Summary of the Qualities of Citizenship. — In order to show that the projects distributed through the curriculum provide inherently for the development of the qualities of citizenship, it is necessary to list these qualities in some detail, uninteresting as such an enumeration may be. It is recognized that such a listing, apart from the activities in which these qualities are inherent, smacks of cant. This very remoteness of these qualities and the feeling of aversion they arouse in us when dissociated from life situations, help to emphasize the necessity of developing them as a part of the situations in which they operate. The only way in which to develop qualities of citizenship is to be a citizen. But it is necessary to have a check to which reference may be made from time to time to stimulate attention and to avoid neglect. For that purpose the enumeration following is offered.

Summarized in general terms, the qualities and activities which should be more prominently illustrated through the concrete projects and situations of school and home life are the following:

Manners, Politeness, Kindness, Hospitality. — Personal appearance pleasing to others requires that one have clean hands, face, teeth, body, and clothes, that the hair should be combed and the body neatly and

tastefully dressed. One should have a clean handkerchief and use it inoffensively whenever needed. At table one should eat quietly, slowly, and with such observance of customs conventionally accepted as to conform to good usage. In personal relationships the polite forms of consideration in such terms as "Please," "Thank you," "I beg your pardon," and others should be appropriately used. One should have developed the habit of never staring at people, never blocking a passage, never running into people, of not closing a door in the face of others, of not whispering in company, and of offering to help others in need. One should also have regard for the feelings and rights of foreigners, not laughing at their blunders, and offering to help them as they seem to need help in a friendly, neighborly way. The newcomer should be treated at first as a guest, and be made to feel that he is enjoying the hospitality of friends upon whom he can depend. He will usually respect, appreciate, and return the friendly dealing. A person should learn to put himself in another's place and to make his actions as pleasing and helpful to the other as he could wish the other to act in serving him. In carrying an umbrella in the street he should avoid inconveniencing others as much as possible; he should not disturb others by talking or obstructing their view at concerts or other entertainments; and he should ever be as sensitive to the rights of others as to the respect by others of his own rights. He should be kind to dumb animals as the defenseless

helpers of man and should help to secure for them freedom from any kind of suffering or abuse. He should learn that kindness and politeness are not only matters of general social intercourse alone, but that they should characterize every form of human contact. They are just as much to be desired in business transactions, daily work, political activities, and intercourse with strangers as in the more limited social intercourse with friends and acquaintances.

Honesty and Fair Dealing. — At play one cannot in any way cheat or misrepresent without being dishonest. Winning is not important at all, when it is compared with fair, square, sportsmanlike playing. To be a "good sport" means to play honestly and fairly, always to feel a friendly rivalry toward one's opponent, take no mean or unfair advantage, and to win or lose with a spirit that will not offend or disgust. In all work in school or elsewhere, the standards of honesty and fair play are also highly important. Cheating in school work is stealing from one's very best self. Slighting one's work or doing it in any way but the very best one can, is stealing from both oneself and those for whom the work is done. When one undertakes a piece of work for another, or for oneself, the work should be done to the very best of one's ability, regardless of the wage or reward received. Dishonest work develops a habit of dishonesty in work. In all business transactions, the most scrupulous honesty must be observed. In every transaction where there is dis-

honesty, both parties are injured — the one by the loss of money or material of value through the theft, the other in character and personality. Theft is quite the right word to use. If I ride on a car and do not pay my fare because the conductor overlooks me, I have stolen from the transportation company. I have become a thief before my own conscience. If I am given too much change when I make a purchase and do not return the surplus, I become a thief by my act if I know of the error. If I keep a lost article which I have found without trying to find the owner I am not honest in the matter. Wherever agreements are made, honesty and fair dealing require that they be kept to the letter unless both parties are willing to make changes. Truth in word and act is the only standard for each and every person upon which any social life that is stable and permanent can build. One should so think and speak and act that one's whole character will be fundamentally honest, true, fair, and trustworthy. To develop such a character requires that one be honest in everything, big and little, in play as well as work, and with oneself as well as with others. To fear to speak and act the truth is the worst kind of selfishness and cowardice.

Loyalty, Patriotism, and Coöperation. — To be loyal is to be truly appreciative of the service of the ideals and persons which have helped one. It is a form of honesty and unselfishness. Patriotism means such a recognition of the help one has received from one's

community, and state, and country, and such a love for them that one respects and defends them even at great sacrifice to oneself. Loyalty and patriotism show themselves in everyday life by a devotion to the well-being of others through coöperation with them in all kinds of good enterprises. To secure every great good for one's community and oneself requires constant helping and sharing in the activities which bring health, prosperity, freedom, and security. It is just as necessary to coöperate with others in establishing and maintaining honesty, fair dealing, healthful conditions, good laws, obedience to laws, and all other conditions of community and civic well-being, as it is to share in the privileges which these blessings bring to one. True loyalty and patriotism mean service as an evidence of love of country, neighbors, and fellow citizens. They are forms of generous unselfishness.

Obedience, Reverence, and Respect. — To the laws which our community or any other community has made for the common good we all owe the most loyal obedience. We likewise owe obedience to the judgments of those upon whom we are dependent and who strive to guide us for our own good. Our parents, our teachers, and the institutions which have been developed as means of bringing great benefits to us should all be obeyed and respected. We little realize as we grow up how much we are indebted to these. They bring us the good results coming from the experiences of the generations which have gone before. Even if

we ourselves do develop new ways of doing and thinking, better suited to changing conditions, we are still under the very greatest obligations to parents, teachers, laws, and customs, and our reverence for the sacrifices of all of those who have contributed so much in bringing us into this social inheritance should show itself in our respect and consideration. To be ashamed of one's parents because they have had less opportunity to enjoy the advantages we have had, is cowardly, selfish, and cruel. To treat teachers, those intrusted with positions of great civic and social responsibility, and older people with anything less than respect and polite consideration, is vain, rude, and disloyal. To deface or despoil public places or property — to litter the streets, mark upon buildings or fences, to take flowers or injure the plants in parks, to trespass upon forbidden property — is to show an unpatriotic, disrespectful, thoughtless, and selfish attitude. To do these things, one is not only injuring all of one's neighbors, but oneself as well. Each one as a member of the community owns a share in all these kinds of public property. Seldom, indeed, do we violate the duties of obedience, reverence, and respect to the persons or rights of others without doubly injuring ourselves.

Thrift, Self-support, and Generosity. — It is the social duty of each person to be energetic, industrious, and efficient in providing himself with all the needs of life so that he may not take from others more than he gives to them. Each should rather strive to be so

thoroughly trained and efficient in his work that he will produce more than he consumes. The young, the sick, the disabled, and the aged are dependent upon the labor and service of those who are strong and able. Each should also look forward to his own old age and to the possible misfortunes which may deprive him of his ability for self-support, saving regularly and consistently for the " rainy day " when it comes. Each should feel a personal responsibility for contributing his share to the support and well-being of those whose misfortunes have made them dependent. Saving does not mean hoarding. Savings may and should be made with the definite purpose of intelligently and humanely using that which is accumulated. In the days of vigor and strength, one may well accumulate and invest a part of one's earnings to secure freedom from later dependence upon others, and also generously contribute to the support of those who are helpless and in need. Participation in some safe plan of investment and insurance is highly desirable. To secure that efficiency required to produce a maximum of productive labor, each must try to find the work for which he is best endowed by natural aptitude, and educate and train himself to do this work with the very highest degree of success of which he is capable. Industry, honesty in performing every detail of one's work, constantly seeking to improve one's efficiency, pride and satisfaction in work well done, and a just regard of the relationship of the work to the social group who share

with the worker in its benefits must characterize the vocational activities of the good citizen as a worker.

Health. — To keep strong and well is not only a great personal duty and satisfaction, but a social obligation as well. Sickness puts a burden upon others. When a person is not well he requires care from others; he fails to do his share of the world's work; he causes losses to himself and his family by additional expense; and he brings hardships upon those directly connected with him in his work. Of course, there are forms of disease which one cannot avoid and accidents over which one may have no control. But much sickness and many accidents are preventable by intelligent conduct and care. One should feel an obligation to prevent sickness and accident in every possible way. One should regard preventable illness or injury as a sin as well as a misfortune. Each individual is so intimately responsible to others in the results of his conduct and well-being, that the health of one is the concern of all. It is, therefore, both a social and an individual obligation to acquaint each with all of the information available and usable about maintaining the conditions of health and sanitation and in developing in each such habits and attitudes as will result in the constant practice of all measures for maintaining health and strength. Good health, in so far as it is possible to maintain it, is a necessary quality of good citizenship. It should be the conscious purpose of society to do all possible to see that every child

is well born, that it is brought to maturity in full strength and health, that it is educated to care effectively for its health by both information and training, and that it is insured a long and healthful life in so far as this is possible by all known means.

Recreation. — Under desirable conditions each individual has several hours daily of spare time. As the working day grows shorter by better forms of production and organization, more time becomes available for the enjoyment of the higher and finer things of life. Spare time may be used to enrich and refine life, or it may be used to make it sordid and empty. Whether spare time is a blessing or a curse depends wholly upon how it is used. Good citizenship requires that it be so used that it help to give a wholesome tone to body and mind, making for good health, that it be stimulating and encouraging to high and ennobling ideals, and that it be in activities tending to promote the well-being of the whole social group. Physical recreation is essential for the maintaining of health in many kinds of work which require a passive condition of the body or a mechanical, routine attitude of mind and body. Mental recreation — participation in other interests than those merely of one's work — is essential to the mental health and wholesomeness of all. Without such recreation, neither bodily nor mental efficiency can be maintained at full and continued force. Body and mind crave variation and stimulation. The demands may be responded to by low, selfish, sordid

activities which tend to undermine and weaken both bodily and mental health, or they may be satisfied by activities wholesome and uplifting in their effects. Out-of-door plays, games, and sports, reading of good literature, listening to good music, attending plays, moving picture entertainments, or other forms of amusement, entertainment, or instruction having an ennobling or broadening influence, and avocational occupations, calling for the use of initiative and imagination are all forms of recreation which may be engaged in with wholesome results if not carried to excess. The good citizen helps to maintain his health, strengthens and develops his ideals, and balances the routine of his life by the most wholesome forms of recreation. He makes the use of his spare time a blessing and help to others as well as to himself. He is interested in providing means for the play and other forms of recreation of both children and grown people and helps the community to meet its responsibility for the adequate supply and control of all needful forms of spare-time activity.

Love of the Beautiful. — In human life there is an almost universal love of form and color. Cultivated and developed, this love of the beautiful seems to react upon character, refining and ennobling it. Nature provides great wealth of material, and man produces much that is of very fine quality in form and color in his architecture, his clothing, his furnishings, his utensils and tools, his vehicles, his streets and roads, his

grounds, and whatever he includes within the scope of his control. By care and thought a community may make all that constitutes its common property attractive and beautiful. Thoughtfully planning a general arrangement of streets, buildings, and public grounds, and both individual and coöperative care in making all things conform to the harmony of the general plan are necessary for the finest results. Each must see to it that nothing enter to mar the beauty of the plan. Cleanliness, orderly arrangement, neatness, prompt repair of damaged property, avoidance of unsightly waste places or dumping grounds, and personal pride in keeping up all aspects of the community, both private and public, are necessary to bring and maintain the most beautiful and satisfying conditions to the community. Good citizenship requires this helpful personal interest and coöperation in combining the beauty of nature with the work of man into the most harmonious whole.

The Progressive, Open-minded Attitude. — In attempting to improve the means and conditions of life, new discoveries and inventions are offered very frequently, and new methods and plans of various kinds are often proposed and tried. Many of these new ways of doing bring about changes which are very beneficial. Every person should feel favorably disposed toward any discovery, invention, or plan which promises greater good for human life and better ways of solving its problems. If old ways, well established,

can be supplanted by ways that are much better, it is wasteful and foolish to hold to the old just because we are familiar with them. One should welcome experiments which give promise, and should aid in their development and extension when they prove their worth. It is only by variation and experiment that progress is possible. To be sure, one should not run after every new thing or proposal just because it is new or different, but one's mind should be open to consider whatever has promise, on its merits. The attitude which opposes anything different, just because it is unfamiliar, or because it means departure from old habits and customs, stands in the way of progress. The good citizen is not "old fogyish," but is always anxious to further whatever offers a definite hope of human betterment. A genuinely progressive attitude is not so radical that it would change conditions by revolutionary measures, but it is always appreciative of sound methods of making new adjustments that will result in greater happiness and efficiency.

Interest in Government. — In a democracy the quality of government is a matter of personal responsibility with each citizen. As the individual realizes that government is the organized means of securing protection and freedom in the pursuit of all desirable human purposes, he appreciates his own relationship to it, and his responsibility for it. He should realize this relationship so fully that he will take a keen and participating interest in the selection of trustworthy

officeholders, in the initiation and promotion of good laws, and in the just and effective enforcement of laws. It is a deplorable fact that the great majority of citizens are not much interested in politics. Some are interested all of the time, and these, relatively few in number, practically control political activities. Among these are citizens genuinely interested in the most effective, just, and progressive purposes of political activity. But there are also those among the most active whose purposes are selfish and sinister. The masses stand by, more or less passively, permitting small groups to control, often failing so fully to understand the real issues and methods of government that many unwittingly support the sinister element rather than the sincere. If a party makes promises and after election disregards them, so little attention is often paid to the matter that it is soon forgotten. A constant and critical interest in government by every citizen is needed. Officeholders need the support and interest of citizens to help them to perform their services with justice and integrity. The citizens need to be informed by their representatives in the local, the state, and the national government of the needs, issues, and measures which they believe should be met and supported. Those elected on definite issues should be held to their pledges. Only as the individual citizens take a live, intelligent interest in desirable political activities is there reasonable hope that government may serve the masses most justly and effectively. Every

community should consider itself under obligations to hold occasional meetings for the discussion of political issues, local, state, and national, or even international. This should not be for the purpose of obstruction or action in any way revolutionary, but for clarifying ideas, intelligently getting at the bottom of various issues, and making the support of desirable measures effective. Political action is the organized means for expressing the desire of unified purpose. The good citizen takes an active, participating, and intelligently guided interest in political affairs because he realizes that it is both his privilege and his duty.

Recognition and Selection of Leadership. — By the very nature of the extent of our territory and population, the direct activities of government must be largely intrusted to chosen leaders. One of the most important civic functions of the citizen is to choose leaders in political life and other forms of organized coöperation. It is highly desirable, therefore, that the personal qualities of citizens proposed for positions of leadership be considered, as well as the particular policies or issues which they represent at a given time. The honesty, integrity, high-mindedness, loyalty to just and humane purposes, and civic public spirit, as well as the qualities of intellectual leadership of candidates for positions of responsibility, should be weighed in making selections. The justice and purity of government cannot be highly maintained except by leaders who are just and pure in mind and purpose. Repre-

sentative democracy is dependent for its effectiveness, even for its very existence, upon the integrity and intelligent social fidelity of its chosen representatives. Idealism of the highest order, but sufficiently practical to meet the immediate needs and problems as well as to point the way of progress, is the quality which citizens should strive to secure in their choices for leadership. In leaders chosen, the citizens must of necessity place their trust for the details of governmental operation. The official becomes to a considerable degree one whose skill and judgment we must trust just as we trust the physician or engineer or other expert in his particular field. If his results belie his claims, if we have made an error in choice, then it is our privilege and our obligation to make a more careful selection of a successor. Good citizenship requires the interest and intelligence to choose leaders, the capacity to follow them and coöperate with them effectively, and the courage to abandon them for more efficient leaders if they prove unworthy or incompetent.

Qualities of Citizenship Inherent in the Whole Curriculum. — In the curriculum here presented there are projects and related subject matter in the various activities and purposes of life in which the qualities of good citizenship enter as factors. To teach so that the qualities of good Americanism, good citizenship, will stand out and be appreciated, requires that emphasis should be placed upon these factors as they appear in life situations in every school grade. Not

only should the values and consequences of various forms of procedure or methods of acting be noted and found in the practical arts, arithmetic, history, geography, literature, and other subjects, but children should be led to discuss many qualities of conduct which the particular situations illustrate. The more general and immediately important laws — local, state, and federal — and the constitutional provisions of the state and of the nation from which these laws derive their authority, may become the subjects of special projects when current or historic questions require an understanding of them.

By approaching all studies of the forms and machinery of government in relationship to the kinds of problems which they have been developed to solve, the real purpose and methods of the several departments of government will be appreciated. This will result in a clear understanding that we ourselves have made the laws; that we ourselves have made our government what it is for our own mutual good; and that we ourselves have the power and the means to change our laws to make them more helpful to us by peaceful and orderly procedure. When we have this conception of our laws and our government, we can have no possible basis for regarding them as our enemies and no possible basis for the growth of revolutionary or anarchistic ideas. It is fundamentally important that we know and appreciate the human problems and relationships out of which arise the needs for

the several departments of government. When such problems and relationships become apparent in projects dealing with daily life pursuits, present and past, then we may go with profit to the sources of information about civil government and find how these needs for laws and government have been met. As a result of connecting a study of the means and methods of government directly with life situations which call for such means and methods, it is scarcely conceivable that we shall think of the government as something remote from us, located at a distant place, the capital, but we shall rather appreciate it as something personal to us, something in which we should vitally participate, and something for which we ourselves are responsible.

But the problems of citizenship, relating to the operation of agencies of government, are relatively small in number. Indeed most of the qualities characterizing the good citizen are those having to do with personal, family, business, and social relationships. They are operative in the daily contacts of the common activities of life. Children should be helped to see the significance of these qualities as they apply in the various situations of which they themselves are a part, the situations which they observe, and the situations about which they read. Out of the many illustrations of definite elements of good citizenship, they will tend to appreciate the value of the quality itself, and appropriate it as a principle of guidance in their own conduct.

The direct relationship to life of the projects and

content of the most effective curriculum makes it inherently carry the vital questions of the qualities of citizenship. Since the very basis of selection in the curriculum here presented is that of the worth of projects and content in promoting human well-being, the information, the habits and attitudes, and the appreciations resulting from its use should be very large in the control elements for the finest citizenship and the most genuine Americanism.

Principles for Guidance in Teaching Citizenship. —

1. Citizenship is, in part, a quality of all of one's acts in the daily conduct of life.

2. Every quality of citizenship should be considered in direct relationship to a situation in which it is illustrated. As numbers of illustrations of the same quality multiply, the quality itself should be considered and its desirability as a general attitude cultivated through practice in its expression.

3. Since citizenship is a quality of daily conduct, its general meanings and applications can be fully appreciated only in direct connection with the situations in which its elements operate. The teaching of citizenship, therefore, becomes an integral part of the projects in the activities of everyday life as it now is, and as it has developed. It not only does not require a separate and special place for study in most of the grades, but it would lose much of its value if separated from the situations in which its qualities are applied.

4. As an outgrowth of the appreciation of need for

the regulative machinery of civic organization and government is seen in the projects in practical arts, geography, history, and arithmetic, occasional projects should arise in the study of the machinery of government itself, local, state, and national.

5. The citizenship elements of all activities represented by this curriculum are emphasized in direct relationship to the situations which include them. The emphasis is here much stronger than is usual. There is, therefore, no requirement for a separate "course" in citizenship. The qualities listed, described, and illustrated in this chapter are so given for the sake of summary and for providing a check list and reminder which may add to the emphasis given to qualities of citizenship throughout the curriculum.

CHAPTER XVIII

HOW TO USE THIS BOOK IN IMPROVING CURRICULA

The Organization of Material Here Offered. — The content of this book is of two kinds. The first eight chapters deal largely with educational principles upon which the making of the curriculum depends and illustrations of their applications; the remaining chapters contain suggestive projects and subject matter for the curriculum, organized by grades. At the conclusion of this chapter is a list of suggestive questions or problems indicating some of the community interests and contacts by which the immediate activities of children may be used in initiating projects connecting daily home and community life with school life.

In using the book as a means of immediate helpfulness, teachers may begin with either part, but the greatest help will come from using the two parts in relationship to each other. The chapters dealing with curriculum content may at once afford suggestions of materials or projects which will apply in enriching or enlivening some piece of school work already under way or about to begin. Reading some of the chapters on principles may afford help in selecting and planning

work to be taken up. It is probably best at first to examine the book rather fully as a whole to see what it contains, to locate elements which are of immediate use in it, and to plan to take up its more complete study as one has time for this. In reading the chapters on principles, frequent reference to the chapters on curriculum content will be helpful in illustrating these principles. In considering points under the chapters on content, reference back to principles will often be desirable to help in deciding how and what to select and why the selecting is justified educationally. The reading of Chapter VII quite frequently may be very profitable in helping to think of modifications in practice which will not be neglectful of any important elements. Chapter VII gives illustrations of two types of project organization.

In considering the content material in Chapters IX to XVII, it must not be forgotten that the material suggested in any subject for any grade usually is larger in amount than can be covered in one year in most schools. From the material, selections may be made which seem to be of most value for the children at the time.

The Continuous Process of Improving the Curriculum. — The curriculum should always be in a state of revision and adaptation. The teacher is continuously responsible for making immediate adaptations. She should be constantly alert to the interests expressed by children and to the important events which may

give rise to projects requiring the most valuable subject matter. Supervisors are also responsible for continuous helpfulness in the development of such projects and in the provision of opportunities and materials for carrying them forward. Principals and superintendents are also professionally responsible for the stimulation and direction of supervisors and teachers, helping to keep them acquainted with the contributions of other school systems and with the sources of helpfulness in publications and affairs generally.

The suggested projects under the respective subjects in Chapters IX to XVII will help teachers to see possibilities for their own grades. The subject matter as outlined in these chapters will be helpful in providing a part of the material needed to carry forward the projects which are undertaken and in suggesting ways and means of securing such material as is not provided. It will be readily seen from the kind of projects and from the kind of material which these require that some questions will be answered by investigating neighborhood conditions and activities, some by making experiments, some by asking people who know, and some by reading text books, reference books, or current papers and magazines. Frequent reference to Chapters VI and VII, dealing with the project method and its applications, will be helpful.

A Plan of Organization for Revising Curricula. — While this informal improvement of the curriculum is good, a more formal and specific revision of the

curriculum is desirable in most schools and school systems. For this purpose, an organization of the entire professional staff of the school system should be made with fairly definite responsibilities. The superintendent, principals, and supervisors should concern themselves with the broader organization of the curriculum and with the formulation of essentials, representing standards set by the state to be attained in the school. With the coöperation of the teachers they should help in grading these essential elements, placing those in the respective grades most appropriate to the growing interests and capacities of children. In particular lines of work, committees of teachers and principals or supervisors should assume definite responsibilities for the suggestion of typical projects and the organization of the appropriate subject matter and reference sources for these. Each teacher will be able to make helpful contributions, and each should be given the widest possible opportunities to work along lines in which she feels the greatest interest and in which she has most to give. The organization of the work should be most thoroughly democratic. The effectiveness of a curriculum depends for its detailed applications upon the teachers, and the more they put into its development the greater their sense of responsibility and power in carrying it forward in teaching.

By occasional conferences for mutual exchange of ideas and reports of work done, the general evaluation

and formulation may be accomplished, and the work of each teacher be placed at the disposal of all. From time to time typewritten or printed statements of new material or new forms of organization may be desirable. To make any very general revision of work which may be tried out or tested as it is developed will require two or three years, perhaps a longer time. It would indeed be a costly error to attempt a wholesale revision in a few months or a single year. The curriculum must grow as a really living thing and the teachers must grow with it, if it is to be effective. Since the ultimate source of the projects is in the children and the social life of which they are a part, the teachers cannot impose any hastily constructed curriculum without destroying the very spirit and means of growth which a revision is designed to promote.

When a sufficient modification of the existing printed curriculum has been developed, after several years in accumulating material well tested, a printed revision may be made to serve as a new starting point for further improvement. Probably the most desirable form of printed curriculum is the loose-leaf type which enables one to replace any unit of work by a better treatment whenever this is developed.

How to Use this Book in the General Revision of a Curriculum. — Before taking up details of revision, a somewhat full discussion of the interpretation and application of the first eight chapters may well be the subject of a number of conferences. After all

the school staff have read these first eight chapters and noted some of the detailed illustrations of the general principles as applied in one or more of the later chapters, a discussion of the principles with reference to the changes in practice which their application would make will help to clarify the meaning of the principles themselves. From time to time through a year or more, conferences may be held for the whole teaching staff, or by groups having common problems, to discuss particular lines of work in relationship to the general principles of the first eight chapters. In the detailed work of each teacher and each group of teachers the references back and forth from the general principles to the projects and subject matter should be frequent. As the applications are developed, the principles as guiding elements will become clearer and more effective, and as these become more fully operative the selection and use of details will be more easily and quickly accomplished.

If the general types of projects suggested in Chapters IX to XVII are accepted as graded, the transition from the curriculum already in use cannot with safety be made abruptly. Progress will be most surely made by working first upon units in which the differences between the old curriculum and the new are relatively small. Gradually the new will replace the old by a process of infiltration and there will be no consciousness of a break or shock by pupils or patrons. All old values that are genuine will be retained and new

values will be added. No outside opposition will develop because the change from that which patrons regard as good to that which they will appreciate as better will have been accomplished so gradually and so surely that they will have had no occasion to raise questions adverse to the progress of the work.

If the general plan of organization proposed by the book is not accepted as a whole, but certain of its principles and some of its units of content are approved, the existing curriculum may be gradually modified by the application of such principles and the adaptation of such units of the several subject-matter fields as may be acceptable. The successful use of portions of the material may lead to an appreciation of the validity and worth of other portions.

Single Units of Work Should Be the Basis of Progress. — The most sure and steady progress may be made in revising the curriculum and in improving the method of teaching if each teacher begins with one project in a field in which she is most certain to succeed. After completing such a project, a second may be undertaken, and perhaps several more in sequence before any attempt is made to carry several forward at once. As success and confidence grow, and as the method of work is clarified and improved through practice, the teacher will gradually begin modifications and improvements in every field. If every teacher in a school or school system is working in this way, in a year or two it will mean a sure growth, progressing with

accelerated force and breadth. Some teachers will begin with practical arts units, some with arithmetic, some with history, and so on, each taking the kind of work which most appeals to her interest and capacity. If supervisors and principals organize conferences for the exchange of individual experiences and provide typewritten or printed reports of various pieces of good work, the whole system may profit by the individual work of each teacher. Whatever is of permanent value for one school or room may be placed at the disposal of all others. The spirit of mutual helpfulness can be practically developed among the entire professional staff of the school system through this method of curriculum revision.

Questions and Topics Suggestive of Possible Projects

How to Direct the Interests of Children toward Desirable Projects. — Many teachers have had so little experience in analyzing the conditions and activities round about them that they feel at a loss as to how to help the children to raise questions which will give a larger educational direction to their immediate experiences. A number of questions and topics are here given which have been found helpful by groups of city and country school teachers for whom they were prepared. These questions all lead into the subject matter of one or more of the school subjects and furnish a basis for possible projects, many of which may

develop into studies extending over a considerable period of time. By using these questions or topics rather freely at first, ability will soon grow to find one's questions in the expressed interests of the children and in the environment which is a part of the experience of the children. The curriculum content outlined in Chapters IX to XVII contains the kinds of material required to answer the questions which cannot be answered by the investigations or constructions in the environment itself.

It is always to be remembered that these questions or directions are but suggestive. When used they will have to be adapted to one's own community. Some of them would have to be changed more or less to be applicable to a given school district. The most successful use to make of them is to read them over and then make an entirely new list adapted to the immediate school neighborhood in which they are to be used.

This list was made for the teachers of Passaic and Trenton, New Jersey. The term "x" has been used here, as the questions may be readily adapted to almost any city or village. Let it be recalled that they are not an exhaustive list but are suggestive only. Teachers will find that a number of the questions for country schools are readily adapted to use in city and village schools. It will also be found that, with but slight change, many of the questions for cities and villages will apply equally well to rural communities.

Questions and Suggestions for City and Village Schools

FOOD

1. What kinds of foods are for sale in x? Tabulation will suggest and lead to classification — cereals, vegetables, meats, fruits, etc.

2. In how many different kinds of stores or shops are foods sold? What kinds are sold in each kind of store? Some specialization will be noted — groceries, bakeries, meat shops, etc.

3. How many of the different kinds of foods does one need to have in order to keep well and strong? Some questions of a balanced dietary are raised by this inquiry.

4. If all of the meats in x should be sold and no more could be secured for a long time, what could be bought for food that would take the place of meats? Similar questions may be asked about cereals, vegetables, and fruits respectively.

5. If the people of x had to get along without one or the other, which could they get along without better, meat or milk?

6. What foods do you commonly buy raw? Which do you eat raw? Is there any reason for cooking any foods other than that you like them better, cooked?

7. You can buy flour and make bread or you can buy bread already baked. Which, counting every-

thing — cost of flour and other ingredients, fuel for baking, and labor — costs less?

8. If your mother does all of the family baking does she earn anything in doing it? If so, how does she get her pay?

9. What units of measure are used in selling different kinds of foods — dry measure, liquid measure, measures by weight, measures by the piece or the dozen?

10. Does a peck of potatoes in x cost eight times as much as a quart? Do half a dozen oranges cost three times as much as two? Does half a pound of butter cost exactly half as much as a pound?

11. Compare the prices of five different common foods at three different stores in x. How do you account for the differences you find? Is there any reason you can give why you should not buy where the price on anything is lowest?

12. When a grocer advertises a bargain sale, get his prices two days before on five articles that he advertises and five that he does not advertise. On the day of the sale compare the prices he asks for each list of five. Who gets the most bargains at a bargain sale?

13. Make a list of the things you eat at each meal each day for three days. Find what the average cost is for each meal and for each day. Were the foods of each meal well balanced?

14. Find out how many calories a child of your age

should have each day. List the kinds and amounts of foods you use for each of the three days and find from a calory table how many calories you had each day. Were the numbers about the same for all three days?

15. Notice how people who sell foods place them so that they may be easily seen. Can you see any reason why there is danger in the way some foods are exposed? Why is it wise always to wash all foods openly exposed for sale before eating them?

16. Where do the grocers, the butchers, the bakers, and others who sell foods in x get them? Are any of these foods raised in gardens or on farms near x? Where do the wholesale people of whom x food merchants buy most of their foods get them?

17. How many of the foods you see in the stores and shops in x were grown in our own state? How many outside of our own state but in the United States? How many in countries other than the United States?

18. Find out and tell or write the story of the travels of a bunch of bananas, or a pound of coffee, or an orange, or a can of salmon, or a sack of flour, or a quart of milk, or a sack of peanuts, or a package of dates, or a bottle of olives, or a cocoanut, or a package of corn flakes.

19. Make a list of all of the states of the United States from which foods are found for sale in x. Make another list of all of the other countries from which foods for sale in x come. Make a list also of all the countries from which foods are found on your table

at home for the day. Do you think it would be right and fair to call all of these people from various states and countries who help to give you good food your neighbors? How should one feel toward his neighbors?

20. Why is it that we do not raise all of these foods we need in our own state, or at least in the United States, rather than buy many of them in very distant countries?

21. Is there anything that you have found out about foods in x and the source of their production which makes you think the United States should have more rigid pure food laws? A large merchant marine?

22. Get menu cards from two or three hotels or restaurants for each of the three daily meals. From one set of them make out a suitable combination of foods for each of the three meals for a child of your age and weight; for a man working at repairing the street car line; for a woman teaching school; for a child of five years.

23. Have you learned anything about foods which makes you think it is just as necessary for a boy as for a girl to know much about them? Is the part all should know about cooking as important as other things about foods all should know?

24. At one store in x a certain kind of soup costs 9 cents a can, at another 10 cents. What per cent is saved by buying a can of soup at the lower price? If the difference on everything else in these two stores were the same, how much could a family save who

spent $300 for food at the more expensive store? How much did your family spend for food last year?

25. How are various foods preserved or kept from spoiling? Can you save money by buying some foods, as vegetables and fruits, when in season and keeping them to use at other times?

26. How many helpers does the owner of a grocery store have to help him do his work — clerks, delivery-men, bookkeepers, or other workers?

27. What does one need to know about weights and measures and how to figure costs and make change to buy foods at grocery and other stores?

28. Why is it necessary for the grocer to be careful and exactly right in measuring, making change, and delivering goods?

29. Why is it important that buyers should pay the grocer promptly and deal fairly and honestly with him? Could we get along without the grocer? Could he get along without us?

30. About what proportion of the people in x are engaged in bringing foods into the city, selling them, and delivering them to the people for use? How many are engaged in keeping restaurants and providing food in hotels?

31. What proportion of your father's income is spent for food each month? By buying foods very carefully could any money be saved for other things?

32. There is a very interesting book by Alice Morse Earle called "Home Life in Colonial Days." Would

you not like to find out about the foods the colonists had in the days when there was not much trade with other countries?

33. How did the war conditions of recent years make any differences in the supply and cost of foods in x?

34. Can you see any reasons why the people of x should be interested in whether people in different parts of the world have good crops? What difference does it make to the people of x whether there is a good crop this year in the Pacific Northwest?

35. Can you see any connection between the food problems of the people of x and the wages paid to railroad men on various railroads connecting the Atlantic coast with the western states?

36. Do you believe there are any values worth considering from having food served in attractive dishes on a beautiful tablecloth in pleasant surroundings and with pleasing conversation by those eating? May a table be set so that it is attractive and pleasing to the eye? If so, is it worth while? Which is more enjoyable, eating alone or with others?

Clothing

1. What are the different kinds of material in the clothes you are wearing? In the clothes you see in stores in x? Classify as to kinds: cotton, wool, linen, silk, leather, fur, rubber, and so on.

2. For what particular uses is cotton best? Wool? Linen? Silk? Leather? Fur? Rubber? Why is

wool better for winter wear than cotton? Does it make any difference to health which materials are used?

3. What kinds of dress materials cost most? Why? Are those which cost most the most durable?

4. See whether you can find any mixture of wool and cotton, of linen and cotton, of silk and linen, or of silk and cotton. How can you test goods to determine what they are made of? Why do manufacturers adulterate or mix some materials in making fabrics?

5. What clothing materials used in x are grown in our own state? In the United States? In other countries only?

6. What kinds of clothing are manufactured in x? Are these all used by the people of x? If not, where are the surplus products sent?

7. What are the changes made in cotton as it comes from the cotton fields before it is finally made into garments? In other clothing materials from their raw state to garments?

8. Who are some of the great inventors who have made possible the great quantities of clothing materials we have to-day at such low prices by their inventions in ginning machinery, spinning and weaving machinery, and the application of power to the making of thread, yarn, and fabrics?

9. What should one know about fading, shrinking, laundering, removing stains and storing clothing materials and garments to be able to buy them intelligently and properly take care of them?

10. What does one need to know about design to make good selections of clothing materials and garments in order that one may be dressed in good taste?

11. To study designs in textiles each child may be asked to bring one sample of cotton cloth three or four inches square; at another time a sample of woolen cloth; and so on for other fabrics. Probably no two samples will be alike in design. A permanent exhibit may easily be built up of typical designs.

12. Examine goods for various clothing purposes in dry goods stores and clothing stores, finding out differences in prices. Are all goods called "all-wool" really all-wool? What is shoddy? Do you find any of it in goods for sale? Do you find any cotton thread in linens or silks? What is loaded silk? Do you see any need for pure textile laws corresponding to pure food laws?

13. Have you ever heard of a sweat shop? What is it? What is the Consumers' League? Why is it needed? Is it any concern of yours that people are making garments in rooms that are badly ventilated and not well lighted, such people often working twelve or fourteen hours a day? Is it any concern of yours that little children who ought to be in school are working in textile mills and factories instead? Why is a child labor law needed?

14. Questions relative to the industrial and commercial geography of textile materials and products, to the number of people engaged in making and distribut-

ing textiles and garments in x, to problems of buying and using textiles and garments, and to other phases of the problem of how we are provided with clothing healthfully and economically, somewhat similar to those for food, may be developed. Some other questions may lead to an appreciation of the literary references to the activities of cotton and sheep raising, spinning, weaving, and making garments. Very much of the significance of the industrial revolution is associated with inventions for more rapidly and easily carrying on textile manufacture. The story of the sewing machine from the simplest hand model to the great variety of power-driven machines of to-day is a part of the history of garment making.

15. Leather and its uses and story from the ranch to the shoe, rubber from the Amazon to the rain coat, rabbit fur from the rabbit to the felt hat, and other furs, feathers, buttons, and some other clothing materials or accessories are all found in the homes, shops, and stores and may be followed up and developed by the children.

Houses, Furniture, Utensils, Tools and Machines, and Books

1. The problem of shelter in x and how this problem has been solved is a summary of the history of architecture. Many people are building houses and there are many building trades. Every one is living in some kind of a house. What are the essentials of a good

house for health, for comfort, for the satisfaction of a desire for the beautiful? What are the sources of building materials used in x?

2. What are the uses of furniture? What forms and materials are needed to meet these uses? What do we need to know to select furniture that meets our needs, that is durable, that is in good taste, that is not expensive? How care for furniture? Similar questions for utensils — chinaware, bowls, and other receptacles of metal or wood; for tools and machines; and for books and other products of the printing and publishing industry, and activities in the production of these as carried on in x or as activities in their sale, distribution, and use are engaged in, lead to that acquaintance with community life that gives it wider meaning and significance.

English

1. What is the effect upon the conversation of children of asking them to talk about things of which they really know something?

2. When children are asked about conditions of the environment, do you not readily lead them to feel the need for looking more closely and finding out many things which had escaped them?

3. As you lead children to investigate and report will they not quickly begin to enlarge their vocabularies and also to feel a need for more clearly thinking out and expressing the results of what they find?

4. Will not lists or other forms of written records of observations and investigations soon be found desirable? Can you go very far with any of these questions without the need of reading — in newspapers, magazines, books, and other printed matter?

5. When matter is read for the information it gives, are not written notes or reports helpful in using the information? Will not there be need for spelling new words? Will not the dictionary be required to help in getting meanings of some new words?

6. In the reading, much will often have to be gone over to get the definite information wanted. Will not this require rapid but discriminating silent reading?

7. In reading reports to the class will there not be a demand for good oral reading?

8. Will not children often disagree on points investigated, calling for statements from each in argumentative form with clearness and force?

9. Will not the investigations of the kinds of problems which help to understand the life of the people of x and of its relationships to the world and to history call for much individual work which will in turn require much work in making individual reports?

10. To get some kinds of information needed will it not often be necessary to write letters of inquiry and, for favors received, letters of thanks?

11. In all of this volume of oral composition, written composition, and purposive reading, will there not be apparent to the children themselves the need and the

motive for the technical elements in speaking, writing, and reading?

12. Will not the need for drill when such drill is needed almost force itself upon the children?

13. Appreciated for its worth, will not the given technical point at a given time be more readily learned and appropriated in use than if it were merely an assignment in a series of language lessons?

14. To summarize the foregoing and add to it: Projects in the activities, needs, and geographic and historic relationships of the peoples of x will require:

Oral and written accounts of investigations, reports of visits or excursions, results of experiments, and reports on readings.

Letters of inquiry, thanks, invitation, and acceptance.

Oral and written presentation of points of view or interpretation.

Written summaries or accounts of activities of the school to be sent to local newspapers or used as parts of programs for the information and entertainment of other grades or of visitors from outside the school.

Written expressions of thoughts or feelings about activities or situations given in prose or poetic form for other members of the class or for programs for others.

Oral and written dramatizations of activities in the practical world, or of historic situations, or based upon literature, for clarifying ideas or for entertainment.

Written accounts of school activities for a school

paper or a grade magazine, or a grade or individual diary.

Original stories or poems written purely for the enjoyment of the writing.

Questions and Suggestions for Country Schools

By looking over the questions and suggestions for city and village schools, teachers will find that many of them apply equally well in country schools.

Geography

1. Make an outline map of your school district, putting in roads, creeks, railroads, the location of each farmhouse, the schoolhouse, and any other buildings of community interest. Make the map on a scale of 3 or 4 inches to the mile.

2. Make a map of your father's farm on a scale of 8 or 12 inches to the mile. Show the division of the farm into fields or plots and indicate what each field was used for this year. If you have color materials, use different colors for different crops. Was the farm divided into fields by running lines and fences by some plan, or are some lines determined by creeks, or hills, or valleys, or forests? Is the arrangement of lots and fields as convenient as it could be made? If not, draw a plan for the farm that is better. Is there any waste land on your farm? If so, why? Can anything be done to make any such waste land usable? If so, what?

3. On another outline map of your father's farm make a list in each field of the crops grown on it for the last four years. Is there any definite plan of rotation of crops shown by these lists? Ask your county agent or farm demonstrator when he next comes what a good rotation is for your region. If you do not want to wait, write to him, or to the College of Agriculture in your state, and ask about good rotations for your county.

4. If there was any wheat sold last year from your school district, see if you can trace it from one of the farms on which it grew to the people who ate the bread made from it. You can get some help from the man who bought it from the farmers. Follow its travels on a map, finding on what railroads, or rivers, or canals, or seas, it was shipped and how far it traveled. Follow other products from your school district to their final consumers — fruits, vegetables, hay, live stock, and other products.

5. What are the various things used in your school district which you do not produce in it? It will help to classify these into the following groups: food; clothing; building materials and house furnishings; tools, machines, and implements; and miscellaneous. Trace the routes of some of these from the places where they are produced to your own school district.

6. On a map of the world, show by red lines, or by strings fastened by pins reaching out from your school district, as many places as you can which use things

raised in your school district; and by blue lines or strings coming to your school district, as many places as you can from which you get things you do not raise. How does your school district help other people to live? What do other people do to help you to live more comfortably? From what different states and countries do you find products used in your school district? A teacher once made a large outline map of the world on the floor in the front of the room, using narrow lines of paint. Places and connections could be put in with chalk and brushed off after they were used. It was found very helpful.

7. Which land in your district raises better crops, level land or hilly? Why?

8. What does rain do that helps farmers? What does it do that is damaging to farms?

9. How much rain in inches falls in a year in your school district? Does more fall than is needed? How much is needed?

10. Find out how much the average per-acre crop was in your school district last year for wheat, rye, corn, and potatoes in bushels, and for hay, timothy, clover, and alfalfa, in tons. Find out what the average was for your whole state. Was your average above that for the state, or below it? If below it, why? If above it, why? Was it as high as you think it possible to make it? Ask your county agent what he thinks about it.

11. Does it make any difference to the people of

New York City whether you have good crops in your school district? Does it make any difference to you whether people in other parts of your state have good crops? In other parts of the United States? In other countries?

Nature Study

1. Make a list of all of the different kinds of trees growing in your school district that are of any use and tell what each is good for. See if you can group them into general classes as to use.

2. Can you think of anything you can do to make forest trees grow better, or should they just be left alone?

3. Are there any beneficial plants other than trees growing wild or naturally in your school district? If so, what are they and what are they good for? What can you do to make them more useful?

4. What birds are of use to farmers? What can you do to help protect and care for them? What birds are harmful? Write to the Department of Agriculture at Washington for a bulletin about birds and the farm.

5. What insect friends are there in your district? What insect pests or enemies? What can you do to help destroy or control insect enemies?

6. Secure as many examples of different kinds of soils as you can from your school district. Find out about their names, history, and proper treatment.

Arithmetic

1. What did it cost last year in your district to raise a bushel of wheat and put it on the market? A bushel of oats? Of corn? Of potatoes?

2. How many cows on your father's farm are bringing in more for the year than they are costing? Ask your farm agent or farm demonstrator how to find out exactly how much a cow is making a day for the owner.

3. How much a dozen do the eggs you use from your own home really cost you? How much a pound do the chickens you eat cost you? When you sell eggs at 40 cents a dozen how much are you making on them?

4. At present prices of feed what is the cost of feeding a horse for a week? How much would you have to pay to hire the use of a horse for a week? Are all of the work horses you have paying for their keep?

5. Which makes machinery — binders, mowing machines, cultivators, drills, etc., — get old and rickety more quickly, the wear and tear of use, or standing out in the weather? How are you to decide on whether it pays to build shed room for machines?

6. How much is your father's farm worth an acre? What does the labor cost on your farm for a year, figuring each day's work at what it would cost to hire it done? Counting out the labor, machinery, and

horses, what interest did the land pay last year on its market value?

7. What does it cost to dress a boy or girl of your age for one year at the present prices of clothing? To feed you? At the present market value of the work you do, do you earn as much as it costs to feed you and clothe you?

8. What does your mother earn in a year? How many hours a day does she work on the average in winter? In summer?

9. How much a rod does a wire fence cost, built to turn cattle and horses? To turn hogs? How much more land is wasted by a snake or worm rail fence than by a wire fence? In how many years would the land saved by a wire fence pay for the difference in cost?

10. How much does it cost your school district to run the school for one year? How much is this for each child? Would it be any cheaper for two or three other schools to combine with yours and have a consolidated school? Can you think of anything such a school could have that yours cannot have?

11. How many hills of corn are there to an acre as you plant corn? If one in every ten hills is missing because of poor seed and no replanting is done, how many bushels loss is that to the acre when the average crop is 40 bushels? How much is the loss on 10 acres? 20 acres? Is the loss big enough to make it worth while to test seed corn before planting?

12. What is a flicker, or yellow-headed woodpecker,

worth each year to farmers? A robin? An owl? A mouse hawk?

13. Does it pay to spray fruit trees? What do you have to know before you can answer this question?

History

1. How many men from your school district went to the war with Germany? In what line of service? For what were they fighting?

2. How many veterans of the Civil War are living in your school district? How many went from it to fight in the Civil War? For what were they fighting?

3. When was your school district first settled? From where did the first settlers come? Why did they leave their former homes?

4. Find out where the grandfathers of all of the children in your school were born. The grandmothers. How many different countries are represented by the birthplaces of these grandparents?

5. Write as much as you can of the history of your father's farm for the last one hundred years — its different owners, its buildings, its changes in field boundaries, and anything else of interest.

6. Write a history of your school district by putting together all that you can get from records and what people can tell you. If possible have a meeting at the schoolhouse some evening to have interesting stories told from what you collect and from old people in the district.

7. Have a "Know your district" day in your school, getting every one to contribute who has anything of interest to offer.

8. Plan a pageant of the historic events of your neighborhood and give the pageant in the spring, getting every one to help who can.

9. What part did your school district have in the Revolutionary War?

10. Write a paper telling all you can find out about the history of farm machinery in your district. How was grain cut 75 years ago? 25 years ago?

11. What inventions of the last hundred years are now in use in your district? Plan an historic fair some time and have everybody bring anything that he can that was once used for some important purpose, but which has been replaced by some invention that is much better.

Composition

1. Write the biography of a chicken, a pig, a cow, a horse, or a bird that you know, telling all of the interesting things about its home, its adventures, its friends, and its life, giving reasons as clearly as you can.

2. Tell what might be done by all of the people in a community working together to make country life much more rich, happy, and attractive than it now is.

3. Tell of all the things in your district that are examples of great natural beauty.

4. Find several poems about country life, or farms,

or farm and country scenes or events that seem to be true of your home and school district.

5. Write a poem about one or more of the following topics:

The view from my home; from our schoolhouse; the birds that visit us in spring; the birds that stay through the winter; before sunrise; sunset; twilight; the snow fall; coasting; shoveling snow; snowballing; skating; the brook in winter; sunrise on the snow; on a winter morning; coasting by moonlight; the fields in summer; the fields in winter; how father calls the pigs; milking time; teaching the calf to drink; driving home the cows; driving the cows to pasture; winter evenings; mother's pies; mother darning socks.

Add other topics that suggest poems. They are all about you.

Reading

1. Make a list of all of the newspapers, magazines, and journals taken in your home. Find out how many of each are taken in your school district. Do you take *The Youth's Companion? The American Boy? The Country Gentleman?* Some schools have a mail box and subscribe for *The Youth's Companion* and one or two other papers. Some schools also write to the Department of Agriculture at Washington and the Agricultural College in their state and receive all of their free publications. Would it not be a good thing for your school?

2. Make a list of the books you have read at home in the last year. Write to the Library Extension Bureau of the State Department of Education at the capital in your state to find out how you can get books to read sent to your school.

Topics Suggested for Work in Citizenship and Americanization. — These questions are from a list proposed for a large public school in New York City with special reference to work in developing ideals and habits of good citizenship. Many of them may be adapted to any city, village, or country neighborhood.

For Lower Grades

1. Make a booklet containing pictures or sketches or clippings illustrating good health habits — brushing teeth, washing hands, opening windows in bedrooms, taking out-of-door exercise, and other good habits.

2. Make a "rebus" story of a full day's health habits, using pictures in the story, instead of words, for toothbrush, soap, clothes brush, etc.

3. Make poster displays for health as related to foods, filling the poster with statements about good food for children, such as: "Oranges are better for us than bananas." "We like milk. Don't you?" "Breakfast foods with milk make us strong." "Much candy is bad for our teeth."

4. Make a chart to prove that the fly is a national robber.

5. Write and present: Conservation plays with

such characters for the plays as, Wheat, Sugar, Meat, Coal, Butter, Shoes, Dresses, and Coats.

6. Write and illustrate by graphs: "How my weight varied from day to day for two months."

7. Write and illustrate: "What can I do to prevent the spread of contagious diseases?"

8. Develop contests in thrift practices, such as, purchase of thrift stamps, placing money on deposit, and saving money for definite useful purposes.

9. Plan and carry out a pageant or pantomime of city and government officials at work — police on traffic duty, the fire department, street sweepers, park employees, postmen, etc.

10. Dramatize the activities of the post office, using canceled stamps and other used post-office materials.

11. Invent and play games expressing the activities of storekeepers, fruit car men, conductors and motormen, policemen, postmen, firemen, and other workers.

12. Make a card of rules for people visiting the city parks.

13. Write and illustrate a paper or booklet on: "How I can help the street cleaning department." Another on: "How I can help the Park Commissioners."

14. Write and illustrate a story about: "What happened to Johnny Thoughtless and Willie Careful on their way home from school."

15. Get a small blank book for keeping personal

accounts, properly entering receipts and expenditures, and making monthly balances.

16. Compile a classified booklet of patriotic and home songs.

17. Form a Roosevelt Club to read the books and adventures of Roosevelt and to stand for his ideas of Americanism.

18. Make " safety first " posters appropriate to the school building and environment.

19. Write and illustrate by pictures or sketches: " What care the city takes of our baby."

20. Write thrift plays, using the characters, Mr. Thrift Stamp, Mr. War Savings Stamp, and Mr. Penny, and other pieces of money.

21. Make a map, chart, or model of your city which will show: " How the city provides means for spending wisely a part of our spare time."

22. Write scenarios for citizenship moving pictures.

23. Keep weather records and make monthly graphs of weather conditions. Write a monthly report on: " How the weather last month affected the people of this city."

24. Dramatize the activities of a bank.

25. Make a chart showing all of the occupations carried on in your block.

26. Write and illustrate a paper on the proper care of pets.

27. Write and illustrate a paper on: " How we can make our neighborhood more beautiful."

28. Make booklets containing pictures or clippings of balanced dietaries.

29. Formulate an American Creed; also a creed for the people of your city.

30. Keep a diary for one month about: "What I do outside of school to help our family."

31. Make an exhibit of good examples of darning and mending of clothes for oneself or other members of the family.

32. Write a booklet of fine sayings of great Americans.

33. Make a pictorial chart showing the typical kinds of houses which have been built by Americans from pioneer times to the present.

34. Make a graph of the temperature records taken three times a day for one month in your schoolroom.

35. Make and illustrate a booklet on: "What I can do for Uncle Sam." Make and illustrate another on: "What Uncle Sam has done for me."

Upper Grades

1. Develop a good-health pageant — costuming, pantomime, banners, posters.

2. Form a "Clean-up" or "Keep-clean" brigade, with appropriate officers and plans of operation.

3. Make a score card for cleanliness and orderliness for stores; for streets; for your class room; for your desk.

4. Write a book of rules for "Playing the health game on the square."

5. Collect advertisements that should help to make better citizens by suggestions of thrift, cleanliness, health, etc., and make a poster of these.

6. Write a history of "Our School's Part in the Great War."

7. Make a pictorial chart of imports and exports of your city.

8. Make a pictorial chart showing what the Statue of Liberty really means to the right-minded immigrant.

9. Write a class poem appropriate to Lincoln's birthday; Washington's birthday; Longfellow's birthday.

10. Make charts showing good color combinations for the walls, floors, and furnishings of various rooms in one's apartment or house.

11. Make a self-measuring score card for scorings in citizenship to be made every four weeks or oftener, for five months. Grade and note improvement from month to month.

12. Make a list of the books you have read and enjoyed during this year about historic Americans or about American life.

13. Make a monthly paper or magazine for your grade, selecting the best work, the best pictures, and cartoons, the best jokes, and the best poems of the month for it.

14. Make a chart showing the expenditures of your school district for one year and what these are for.

15. Make a chart showing by pictures: "Those responsible for my safety and comfort for one day in our city."

16. Make a series of tableaux or pantomimes illustrative of changes of 300 years — 1620 and 1920.

17. Write a brief historical play about your community and perform it.

18. Make a series of "See America First" charts or posters.

19. Make a list of "The laws which have helped me in the last twenty-four hours," stating how each law has helped.

20. Plan a show of flowers grown at home or in school to be held about the first of May.

21. Write the story of Mr. Slacker who never voted, and why his neighbors did not think him a good citizen.

22. Make a classified list of poems and songs that express the various phases or aspects of Americanization and patriotism.

23. Write "What I owe my country and what my country owes me."

24. Write "How I became a law," as an autobiography of any given law.

25. Write and illustrate "The story of a glass of city water."

26. Write and illustrate a booklet called "Laws every child should know."

27. Show by posters or charts the occupational openings for boys and girls graduating from the eighth

grade, from high school, and from college, and the opportunities for advancement of each group.

28. Write and illustrate a report of "How some great American inventions benefit the people of our city."

29. Construct a citizenship bulletin board; develop a contest between the seventh and eighth grades to see which can make the best selection of clippings from the newspapers and magazines for each month of this year.

30. In some of the class organizations, devote some periods to the definite practice of parliamentary law.

31. Make briefs for debates on current questions relating to your city and hold these debates in class time.

32. Develop a plan for a "Melting Pot" pageant in which the children of the whole school may take part. Children from all lands with their ideas, customs, and costumes enter the melting pot, and all come out with good American ideas, customs, and costumes.

33. Organize your class into a street cleaning department, a local board of health, or other governmental or social bodies and dramatize their activities.

34. Make diagrams to show the organization of different branches of government of your city, your state, and the United States.

35. Make a chart or map showing the chief routes of transportation from and to your city by land and by water.

36. Form a school organization to help in the upkeep of the school, following the plan of a council, or legislature, or court.

37. Write and illustrate a "History of our neighborhood."

38. Formulate a workable plan of school self-government.

39. Make a map of the world to show the native homes of all nationalities represented in your school district.

40. Make a score card for 100 per cent Americanism.

41. Make an Americanization balance sheet for the immigrant in what America offers the immigrant, and what he brings to America.

Interest in Environment as the Source of Projects. — These questions and suggestions serve to illustrate how much the environment itself may contribute interest and stimulation to lines of thought resulting in projects of the highest educational value. Starting with that which immediately secures the exploratory interest of children, and which has relationships of direct value in the daily conduct of life, these questions may become avenues of approach to the subject matter of the curriculum most needed in the pursuit of efficient and wholesome living. The work should be a continuous experience in enlarging and enriching personal and social life. Increasingly effective participation in the activities of life under the guidance of social ideals is education.

INDEX

Acting, as a part of behavior, 22.
Activities, in relationship to education, 1*ff.*; their purposes, 72; represent present needs, 80; organizing to include subject matter, 147; as basis of curriculum, 149; Chapter V; and practical arts, 166.
Æsthetic appreciation, and nature study, 140; and practical arts, 160; and citizenship, 413.
Agriculture, as a practical art, 155.
Aim of education, curriculum as related to, 1*ff.*; as development of personality, 42.
Aims of life, as purposeful activities, 43*ff.*; and tool subjects, 58; how promoted by subject matter, 133; Chapter III; *see also* life purposes.
Americanization, 229, 260, 418, 421.
Appreciations, and conduct, 31; as special forms of attitudes, 31; how developed, 31; æsthetic, 140, 160, 345, 413; intellectual, 140, 164; of social forces, 268; of art values, 347, 348; of music, 358, 361; of physical activities, 378; of interdependence, 402; of human problems, 419; and citizenship, 420.
Arithmetic, and the needs of life, 142, 234; social usage of, 235; as a tool, 236, 240; avoiding arrested development in, 254; projects and subject matter in, 241*ff.*; suggested projects in, 448; Chapter XI.
Arrested development, how to avoid, 152, 254.
Art, *see* fine arts and practical arts.
Attitudes, in control of conduct, 29; how formed, 29; and citizenship, 30, 414; as related to appreciations, 31; and efficiency, 49; developed by history, 259; and literature, 305, 307.

Behavior, as response to needs, 9; what it includes, 22; as affected by habits and attitudes, 30; and native tendencies, 38.

CAMPBELL, 113*ff.*
Capacities, as revealed and developed by expression, 41; in fine arts, 147.
Character, 413.
Citizenship, as a life purpose, 14, 43; information and, 27, 420; habits and attitudes and, 31; appreciations and, 34; means of growth in, 52, 53, 56, 399; and history, 259, 263; meaning in America, 396; and laws, 396; and service, 397; projects in, 401*ff.*, 453*ff.*; relationships of, to other subjects, 401, 403; qualities in the curriculum, 418; principles in teaching, 421; Chapter XVII.
City schools, projects suggested for, 432*ff.*, 453*ff.*
Civic activities, 50, 51, 52.
Civic intelligence, 401.
Clothing, 174*ff.*; and health, 46, 375; suggested projects in, 437*ff.*; Chapter IX.
Commercial arts, 156.
Composition, in English, 310; principles for organization in, 332; suggested projects in, 451; in music, 364.
Conduct, as adaptation to needs of life, 9; in terms of needs and satisfactions, 12; knowledge as a factor of control in, 26; habits and, 28;

as influenced by history, 258, 266; and citizenship, 396, 420, 421; and laws, 396.
Content of curriculum, standards for all schools, 69*ff.*; approached through projects, 114; and method in fine arts, 345.
Coöperation, as an aim and means of life. 43; in civic life, 51, 402, 403, 407; vocational, 51; in play, 145; social, 271, 398.
Correlation, true and false uses of the term, 85, 134; illustrations of, 114*ff.*, 136.
Country schools, projects suggested for, 444*ff.*, 453*ff.*
Curriculum, the, as related to the aim of education, 1*ff.*; sources of, 2; who should make it, 5, 426, 427, 428; two common errors in, 20; should include all phases of behavior, 22; a reflection of life activities, 24, 74; and vocational guidance, 59; and the school subjects, 80; what it is, 86; is always in process of making, 88, 426, 428, 429; and the project method, 90; sequence in, 99, 101; changing from present forms, 105, 427; includes both activities and subject matter, 148; principles of making, 150*ff.*; how to revise, 153, 424*ff.*; and citizenship, 418.

Departmental teaching, project method opposed to, in the elementary school, 103.
Design, 337*ff.*; projects in, 349; Chapters IX and XIV.
Differentiated courses, in high schools, 64*ff.*, 74.
Discipline, and the project method, 102.
Drawing, 338, 339, 340.
Drill, to serve life purposes, 59; project period, 109; as related to needs, 132; when educative, 239.

Education, as adapting conduct to needs of life, 9; needs for, as revealed by the War, 15; periods of, 61; elementary, 61*ff.*; secondary, 64*ff.*; higher, 68; definition of, 460.
Educational value, in terms of conduct, 10; Chapters I, II, and VIII.
Elementary school, purpose of, 61*ff.*
English, and the needs of life, 144, 301; mechanics of, 308; projects and subject matter by grades, 313*ff.*; suggested projects, 441*ff.*, 451*ff.*; principles for organization in, 330*ff.*; Chapter XIII.
Enjoyment, and knowledge, 27; and appreciations, 31, 56; health values of, 47.
Errors, common in curricula, of content, 20; of sequence, 21; of correlation, 136.
Experiences, tests of values of, 35, 36; the basis and means of growth, 41; of race, in subjects of study and projects, 81, 90.

Fair dealing, as an element of citizenship, 406.
Feeling, as a part of behavior, 22, 23.
Fifth grade, practical arts in, 173, 179, 187, 193, 197, 203; geography in, 225; arithmetic in, 247; history in, 114*ff.*, 289*ff.*; English in, 323*ff.*; music in, 369; physical education in, 389; project method illustrated in, 107, 114*ff.*
Fine arts, defined, 337; painting and sculpture as, 341; purposes of, 343; and nature, 345; and citizenship, 412; projects in, 349*ff.*; principles for organization of, 354; Chapters IX and XIV.
First grade, practical arts in, 171, 174, 182, 191, 195, 199; geography in, 219; arithmetic in, 241; history in, 271; English in, 313*ff.*; music in, 366, 369, 370; physical education in, 382.
Fishing and hunting, as practical arts, 155.
Foods, 182*ff.*; and health, 44, 375; suggested projects in, 432*ff.*; Chapter IX.

Fourth grade, practical arts in, 173, 177, 186, 192, 196, 201; geography in, 222; arithmetic in, 246; history in, 285*ff.*; English in, 319*ff.*; music in, 367, 369; physical education in, 387.
Free expression, to be used, not indulged, 93; unaided may become unsocial, 94; to be guided along desirable lines, 103.

Generosity, as a quality of citizenship, 409.
Geography, projects in, for fifth and sixth grades, 123*ff.*; and the needs of life, 142; content of, 209; as related to nature study, 211; projects and subject matter in, 219*ff.*; beyond the elementary school, 230; principles for organization in, 230; suggested projects in, 441; Chapter X.
Government, interest in, 415; studies in, 419.
Grammar, 310.

Habits, as a factor in control of conduct, 28; how formed, 29; and health, 47, 377; as tools, 58; and recreation, 378; and citizenship, 421.
Health, as a life purpose, 13, 43, 374; habits and attitudes, 30, 377, 378; food, clothing, and shelter and, 44*ff.*; needs, 47; efficiency and, 49; physical education and, 145; the practical arts and, 159; knowledge and, 375; education, 374; projects in, 382*ff.*; and citizenship, 411.
HENNESS, 107.
Higher schools, 68.
High school, junior, 64; senior, 67.
History, fifth and sixth grade projects in, 114*ff.*; and the needs of life, 143, 255*ff.*; extent of the field of, 260; projects and subject matter in, 271*ff.*; principles of organization in, 298; as related to citizenship, 402; suggested projects in, 450.
Honesty, as a quality of citizenship, 406.
Hospitality, as a quality of citizenship, 404.
Hunting and fishing, as practical arts, 155.
Hygiene, *see* health.

Improving the curriculum, a continuous process, 424.
Industrial arts, as related to history, 115; and the needs of life, 141; defined, 156; and fine arts, 347.
Information, and conduct, 26; health and, 375; citizenship and, 421.
Instincts, education and, 41.
Intellectual appreciation, 34; nature study and, 140; practical activities and, 164; of music, 359; and citizenship, 420.
Interest, in government, 415; how direct, 422; in environment, 460.

Junior high school, 64.

Kindness, as a quality of citizenship, 404.
Knowledge, as a factor in the control of conduct, 26; method of acquiring, 28.

Law, directive, respected by children, 103; restrictive, required at times, 103; history and, 257.
Laws, citizenship and, 396; what they are, 398; how made and changed, 399, 419; respect for, 408.
Leadership, as a quality of citizenship, 417.
Leisure, and attitudes, 31; uses of, 33, 34, 53; as an aim of life, 43.
Life purposes, 43; and the tool subjects, 58; and the periods of education, 61; in measuring the worth of school experiences, 70; and present-day activities, 72; to be promoted by the school, 74; and school subjects, 138; and nature study, 139; and industrial arts, 141, 156; and geography, 142, 213;

and arithmetic, 142, 234; and history, 143, 255*ff.*; and English, 144, 301; and physical education, 145, 374; and music, 145, 357; and fine arts, 146, 343.
Literature, and appreciations, 32; and interpretation of life, 305; as related to other subjects, 305; for enjoyment, 308; sequence in, 312; principles for organization in, 335; *see also* English.
Love of the beautiful, as a quality of citizenship, 413.
Loyalty, as a quality of citizenship, 407.

Manners, as a quality of citizenship, 403, 404.
Mental content, determining control of conduct, 26.
Mental power, how developed, 37.
Mining, as a practical art, 155.
MOSSMAN, 107.
Music, knowledge of and selection of, 27; appreciation of, 31; and the needs of life, 145, 357; thought and feeling content of, 359*ff.*; instruments of, 361; composition in, 364; sequence in, 365; projects in, 368; as related to other studies, 368, 369; principles of organization in, 371.

Native tendencies, and behavior, 38; important in education, 39; and the making of the curriculum, 40.
Nature study, 447; and geography projects, 123*ff.*; and the needs of life, 139; as related to geography, 211; principles of organization in, 232.
Needs, as a source of adaptive behavior, 9; as affecting conduct, 12; as revealed by the War, 15; have both present and future reference, 17; as satisfied by impulsive activities, 38, 39; of spare time, 57; determine selection of curriculum material, 76; represented by the activities of the curriculum, 81; for nature study, 139; for industrial arts, 141, 156; for geography, 142; for arithmetic, 142, 234; for history, 143, 255*ff.*; for English, 141, 301; for physical education, 145, 374; for fine arts, 146, 343; for music, 145, 357.

Obedience, as a quality of citizenship, 408.
Occupations, regulated by law or custom, 51; studied in schools, 59; in modern life, 72; tools used in, 75; and geography study, 142, 214.
Organization, on full project plan, 107*ff.*; on partial project plan, 114*ff.*; by projects a desirable end, 132; change in, must not be radical, 149; for revising curricula, 425*ff.*

Painting, 342; projects in, 351.
Participation, as a means of growth, 57; requires mastery of tools, 75.
Patriotic attitudes, 29.
Patriotism, illustrations of, 29; as a quality of citizenship, 407.
Penmanship, 331.
Periods of education, 61.
Phonics, 308, 334.
Physical education, and the needs of life, 145, 374; and health, 374; and recreation, 378*ff.*; projects in, 382; principles for organization in, 394; Chapter XVI.
Pictures, sources of, 167, 353.
Play, and the uses of leisure, 53; and physical education, 145.
Politeness, as a quality of citizenship, 404.
Pottery study, illustrative of correlation, 83*ff.*
Practical activities, meaning and purpose of, 48; requirements for efficiency in, 49.
Practical arts, meaning of the term, 155; purposes of the study of, 156; and social responsibility, 163; materials for teaching, 167; projects and subject matter in, 168*ff.*; principles for organization in, 207;

as related to fine arts, 347; and health, 375, 376; Chapter IX.
Practical efficiency, as a life purpose, 13; means of developing, 57.
Principals of schools, and revising curricula, 425, 426.
Principles, of curriculum making summarized, 150; of geography, 217; of design, 337, 352; in revising curricula, 428; in teaching citizenship, 421; for organizing — practical arts, 207; geography, 230; nature study, 232; arithmetic, 252; history, 298; English, 330; fine arts, 354; music, 371; physical education, 394.
Progress, in revising curricula, 429.
Progressive attitude, as a quality of citizenship, 414.
Project method, what it is, 89; three forms of interpretation of, 90*ff.*; opposed to departmental teaching in the elementary school, 103; illustrated, 107*ff.*; Chapter VI.
Project organization, a complete plan of, 107*ff.*; conditions necessary for, 112; a partial plan of, 114*ff.*; spirit and qualities required for, 131; as a desirable end, 132.
Projects, reveal needs for tool subjects, 58; include studies of occupations, 59; selecting and arranging of, 100; have purposes that are immediate, 97; kinds of, 108*ff.*; typical for fifth grade, 110; aid in reducing the number of subjects, 134; suggestions for, 430*ff.*; from environment, 460.
Purpose of curriculum, 1.
Purposeful activities, as the aim of life, 43; and the tools they require, 75; and the curriculum, 76; and the school subjects, 78, 80; and projects, 89; used to lead to higher purposing, 97; and school discipline, 102; Chapter III.

Questions, suggesting projects, 430*ff.*

Reading, mechanical elements in, 302, 308, 309; for information, 304; for recreation, 305, 306, 307, 330; as a permanent interest, 307; oral, 309; silent, 309; principles for organization in, 333; suggested projects in, 452; *see also* English.
Records, as a part of practical arts, 195*ff.*
Recreation, as a life purpose, 14, 53; means of developing interests and habits in, 57, 378; and crime, 57; projects in, 382*ff.*; and citizenship, 412.
Recreational activities, kinds of, 54; values of, 55, 56; when injurious, 55; in nature studies, 140; in reading, 307; in music, 371; in games and plays, 378; and interests, 378*ff.*
Relative values, in curriculum making, 11; in selecting projects, 94.
Respect, as a quality of citizenship, 408.
Reverence, as a quality of citizenship, 408.
Revision of curricula, 88, 424, 427.

Schools, projects suggested for, 432*ff.*
School subjects, and practical activities, 77; and the curriculum, 80; often separated from life activities, 79; summarize phases of experience, 80; to be used as checks, 83; are highly specialized, 133; may be reduced in number, 134.
Sculpture, as a fine art, 341, 342; projects in study of, 351.
Second grade, practical arts in, 172, 175, 184, 191, 195, 200; geography in, 219; arithmetic in, 242; history in, 275; English in, 315; music in, 367, 369; physical education in, 384.
Self-support, as a quality of citizenship, 409.
Senior high school, 67.
Sequence, in the curriculum, 99; in projects, 148; in geography, 215; in arithmetic, 240; in history, 263*ff.*; in English, 311*ff.*; in design, 349; in music, 365.
Shelter, 171*ff.*; and health, 46, 375; suggested projects in, 440.

Sixth grade, practical arts in, 173, 180, 189, 194, 198. 205; geography in, 228; arithmetic in, 249; history in, 293; English in, 325; music in, 369; physical education in, 391.
Social inheritance, represented by the subjects of study, 80; in music, 359.
Social values, of practical arts, 161*ff.*; of history, 255*ff.*
Source, of the curriculum, 3; of pictures, 167, 353; of projects, 460.
Spare time, and appreciations, 31, 32; and health, 48; amount of, 54.
Spelling, 311; principles for study of, 330.
Subject matter, and projects, 90, 138; and project organization, 112; sequence of, 100; and the aims of life, 134, 138; included in activities, 147.
Suggestions, for projects, 430*ff.*
Summary, of principles for curriculum making, 150; of qualities of citizenship, 404*ff.*
Superintendents of schools, and revising curricula, 425, 426.
Supervisors of schools, and revising curricula, 425, 426.

Teachers, to create conditions to meet and stimulate needs, 83; not to impose projects, 98; leadership required of, 112; to aid in curriculum making, 153, 425, 426.
Thinking, as a part of behavior, 22.
Third grade, practical arts in, 172, 176, 185, 192, 195, 200; geography in, 220; arithmetic in, 243; history in, 280; English in, 317; music in, 367, 369; physical education, 385.
Thrift, as a quality of citizenship, 409.
Tool subjects, and life purposes, 58; used in modern activities, 75.
Tools and machines, as a part of practical arts, 199*ff.*; suggested projects in, 440.

Utensils, as a part of practical arts, 191*ff.*; suggested projects in, 440.

Values, relative, in curriculum making, 11; means of measuring, 36; of recreational activities, 56; of projects, 460.
Village schools, projects suggested for, 432*ff.*, 453*ff.*
Vocational guidance, and the curriculum, 59.
Vocational interests, in the junior high school, 65.

War, educational needs revealed by, 15.
WILSON, 235.
Worth, of experiences, how judged, 36; of events in history appreciated through literature, 306.

Printed in the United States of America.